



REVIEW

Progress in research on Chinese urbanization

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Abstract

This paper is a comprehensive study on the progress in research on Chinese urbanization. On the basis of the concept and connotation of Chinese urbanization defined by Chinese scholars, the paper systematically collects the research results on the issues concerning urbanization in China from the different approaches of demography, geography, city planning, economics and history, reviewing the process of research on Chinese urbanization made both domestically and internationally. In this paper, the domestic studies fall into five periods as follows: the initial period of research on urbanization in China (1978-1983); the period with both domestically constructed and borrowed theories on urbanization (1984-1988); the period of research on leading urbanization factors and localization (1989-1997); the period with the research greatly promoted by the government (1998-2004); and the period featuring flourishing studies on the science of urbanization in China (2005 till today). In contrast, the overseas research on Chinese urbanization can be divided into three periods: the period studying the history of urbanization in China (before the 1970s); the systematic research on Chinese urbanization (1970-1999); and the comprehensive research on Chinese urbanization (2000 till today). The paper focuses on the key results of research on Chinese urbanization, including nine issues as follows: the guidelines and road for urban development in China, the features of Chinese urbanization, the mechanism driving the growth of Chinese urbanization, the process of Chinese urbanization, the spatial patterns of Chinese urbanization, the urbanization in rural areas in China, the comparison of urbanization in China and other countries, and globalization and regional urbanization.

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Moreover, the paper also summarizes key academic activities and important events concerning Chinese urbanization, including documents, activities, and events of the Central Committee of the Communist Party of China (CPC), the State Council, National Development and Reform Commission, the State Ministry of housing and Construction, the State Ministry of Civil Affairs, the State Ministry of Science and Technology, and National Fund on Science, as well as major international cooperation projects and conferences, concluding that the studies of Chinese urbanization have distinct characteristics, that is, foreign scholars have conducted many studies on Chinese urbanization, while the studies made by Chinese scholars in the field mainly feature practicability, and the interaction between Chinese and foreign scholars as well as the application of international practice in China yield satisfactory fruits. However, there are also several problems in the studies of Chinese urbanization, such as the ambiguity in understanding the concept of urbanization, the lack of fundamental statistics, the emphasis on the research of actual phenomena and the neglect of theoretical exploration, the focus on regional urbanization and the inadequate studies on national and global background. China is in the transitional period from planned economy to market-oriented economy, making it hard for the direct introduction and application of the framework of urbanization that emerged in developed capitalist countries.

At the same time, the domestic framework of urbanization created under the conditions of previous planned economy is also inapplicable. Therefore, the promotion of Chinese urbanization faces a series of theoretical issues. In comparison with the western developed countries and most developing countries, Chinese urbanization faces more complicated backgrounds and more problems. The theories and framework of urbanization developed in both developed and most developing countries cannot be directly applied in China. So the research purpose in China is to form unique theories on urbanization based on actual conditions and characteristics in this country and the research shall adopt a multiple approach focusing on the impact of the progress of society, economy, population, politics, culture, environment, technology and public policies on Chinese urbanization.

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1. Introduction

Urbanization is an important social process of human society in the 21st Century. People keep flowing into cities, making cities grow on a continuous basis. When people stop moving to cities, urbanization will also stop accordingly. Typical definitions on urbanization include: (1) Urbanization mainly refers to the transformation process experienced by rural population toward an urban life style, showing as the increase of urban population, the expansion of urban built-up area, the creation of landscape and urban environment with social and life style changes (Hiroshi Morikawa, 1989); (2) there are three meanings of definitions on urbanization: first, urbanization accompanied by the increase of proportion of urban population; second, urban growth, meaning the growth of urban population; third, urbanism, referring to the urban lifestyle, social and behavior features extending to the entire society (Pacione, 2003). Through a comparative study on the urbanization process in different countries and areas in the world, including rapid urbanization in the 20th century, although there are many common features, different countries adopt different paths due to their different cultural background and development stages, resulting in divergent social results (Berry, 1973a, b). Lampard (1964), McGee (1971), and Friedmann and Wolf (1982) proposed a comprehensive analysis method, arguing that the urbanization actually reflects the entire society and is a multi-dimensional reflection of physical, spatial, institutional, economic, population, and social characteristics.

In China, many complicated theories on urbanization and numerous research results in the field make the concept of urbanization become more variable; even scholars majoring in the same discipline produce different definitions on urbanization. In this paper, Chinese urbanization refers to the increase of cities in number and the expansion of urban space, resulting in the concentration of population in urban areas during certain period of time, while at the same time the urban material and spiritual civilization keeps extending to surrounding rural areas during the process and producing new spatial patterns and landscapes along with the continuous changes of regional industrial structure. This paper also focuses on the progress of the researches on Chinese urbanization.

2. Disciplines studying urban China

Urbanization is one of the social phenomena with the most vitality and energy during the process of modernization and flourishes across the entire world especially after the Industrial Revolution, attracting many professionals in human sciences, natural sciences, and engineering technologies to engage in cross-disciplinary studies in the field, including disciplines of sociology, demography, geography, economics, history, and city planning, creating a disciplinary group studying the issues of Chinese urbanization.

The urban studies were first initiated by demographers and sociologists in China. Li (1922) listed the population in different ports and cities with a population of more than 100,000 according to the reports of the Customs in *Overview of Population Statistics in History* which was published by *Shanghai World Book*. Zhu (1926) recorded classified statistics on cities with a population of 10,000-100,000 in *Jiangsu*

and *Zhejiang* and compared it with other places in China and other countries in the world. Wu (1929) introduced the approach of urban sociology from western countries and made initial explorations on urban economy, population, areas and required control measures in *urban sociology* which was published by *World Book* in China. Xu (1930) published *Population Issues in China*, including a chapter on “Urban and Rural Population Distribution”, evaluating the proportion of urban and rural population in China, published by *The Commercial Press*.

Hu (1935) published the first isoline graph of population density in China, revealing the basic rules of population and spatial distribution of cities in China, and this was later known as the *Hu Huanyong Line*. After that, some geographers started to study urban geography (Wang, 1935; Shen, 1937; Chen, 1943; Shen and Sun, 1947). After the People's Republic of China was founded in 1949, geographers were engaged in urban studies by integrating urban development, among them Zhao and Bai (1950) made tentative studies on urban geography in Nanjing. Huang (1951) studied the development of port cities in China. Luo et al. (1952) studied the site and construction of *Baotou City* by focusing on several large scale projects, while Huang (1958) studied the water supply for urban development in *Xi'an* and future utilization and development of water resources in the area.

In spite of all these academic efforts, the overall urban studies in the early period were sporadic, without study of urbanization as a social process. After 1949 when China established the socialist system, urbanization was taken as a unique phenomenon in capitalist countries and had no foundation to exist in a socialist country.¹ Being affected by this belief, before the 1970s, no Chinese scholar ever studied Chinese urbanization (He and Wu, 2007).

Shortly after the adoption of reform and opening-up policies in China since 1978, human geographers were among the first to study the general trend of urbanization progress in the world and to summarize the lessons and teachings on urbanization progress during three decades after 1949, proposing to study the Chinese urbanization. According to the literature, Wu (1979) published the first paper, *Several Issues on Socialist Urbanization in China*, starting the professional studies in the field in China.

Then geographers and city planners joined hands in developing studies on Chinese urbanization in China. Experts in city planning and authorities have taken the studies of urbanization as an important and long-term research field. After 1982, the City Planning Division of the State Ministry of Urban and Rural Construction and Environmental Protection gathered geographers and city planners in holding four seminars on Chinese urbanization, and the first one of them was held in Nanjing in December 1982. In the same year, the first Seminar on *Urban Development Strategy* was held in Beijing, with the support of the Ministry of Urban and Rural Construction and Environmental Protection, the Chinese Society for Philosophy of Nature,

¹At the first academic seminar exploring the issue of *Chinese urbanization path* held during 6-10 December 1982 in Nanjing, some participants believed that urbanization is a phenomenon accompanying capitalist development. It contradicts the socialist systems in China and is opposed to the Marxist ideology of the relationship between urban and rural areas.

Science and Technology, extending the studies of Chinese urbanization to the fields of both natural sciences and human sciences.

During 1980s-1990s, sociologists leading with *Fei Xiaotong* have made outstanding contributions to the exploration of path and models of Chinese urbanization, proposing the road of “going to cities instead of factories” for rural urbanization. Chinese historians also studied Chinese urbanization by integrating the history of modernization and modern history of China (Yun, 1995; Ci, 1998; Zhao, 1998; Yuan, 1999; Chen, 2003a, b, c, d). Recently, urbanization has become a leading factor driving the growth of the Chinese economy, and economists started to join the research team studying Chinese urbanization, greatly consolidating the theoretical framework for the studies on Chinese urbanization. On the basis of institutional economics and urban economics, He and Wu (2007) believed that Chinese urbanization refers to the flow and the re-allocation of national population, industries, and main production elements under the direction of market mechanism in the special space of cities.

Authorities of the central government took into comprehensive consideration the progress in Chinese urbanization and actively promoted both the applied studies on urbanization and the setting up of public policies on Chinese urbanization. In 1983, the Science and Technology Bureau of the State Ministry of Urban and Rural Construction and Environmental Protection launched a research project on “*Urbanization Models in China's Several Developed Areas*”. In 1985, the City Planning Division of the State Ministry of Construction drafted the first *Outline on National Urban System Planning* and launched a debate on the guidelines of urban development on the basis of *Regulations on City Planning* and then *Law on City Planning*, greatly promoting the studies of Chinese urbanization. In 1989, the State Ministry of Civil Affairs drafted *Predicting and Planning of Designated Cities in China*, aiming to regulate urbanization process in China with such means as making adjustment to administrative division of municipality.

To sum up, the studies on Chinese urbanization involve different disciplines of geography, city planning, sociology, demography, economics, and history as well as relevant administrative authorities based on different understandings on urbanization according to different major figures and governmental functions, which provides a good platform for launching comprehensive and cross-disciplinary studies and for an accurate and complete understanding of Chinese urbanization.

3. Studies on Chinese urbanization in the mainland of China

Studies on Chinese urbanization can be roughly divided into the following five stages.

3.1. The initial period (1978-1983)

Since China adopted reform and opening-up policies in 1978, economic construction has become the focal point of the governmental works and greatly promoted rapid urban development, bringing along at the same time the

issues of urbanization to both scholars and administrators. During 1978-1983, the studies of Chinese urbanization was during the initial stage mainly because on the one hand the *Maoist* ideological restrictions should be broken through, and on the other hand, many actual issues about urbanization should be discussed, which basically recognized urbanization as an inevitable trend in order to further economic growth and social development. After Wu (1979) published *Several Issues on Socialist Urbanization in China*, urban geographers and city planners started to include Chinese urbanization into their scope of research.

At this stage, the studies on Chinese urbanization were initial and tentative. On the one hand, the studies mainly served the purpose of city planning and the researchers adopted many approaches in history (Hou, 1979), regional analysis (Song, 1980), industrial development (Li, 1978), population distribution (Wu, 1981), climate change (Zhou and Zhang, 1982; Zhou, 1983; Zhang, 1983), and spatial distribution of cities (Yu, 1983). On the other hand, urbanization became a new subject itself (Chen, 1983; Ma, 1983) and the first National seminar on *the Path of Urbanization in China* was held in Nanjing in 1983 (Wu, 1983). From the very beginning, Feng (1983) raised a question: *To Develop Small Cities, Is This the Only Way for China to Promote Urbanization?*

After that, the studies started to focus on the relationship between economic development and urbanization. Zhou (1982) studied the impact of industrialization, national policies and GDP on urbanization. Zhang (1983) summarized two models of top-to-bottom and bottom-up, the first model refers to the construction of small cities with national investment since the 1960s, while the second model refers to the promotion of urban growth by mainly relying on the flourishing exchanges of agricultural by-products due to the rise of an affluent countryside. Lin (1984) concluded that industrialization and urbanization serve as the cause and effect for each other. According to the research project of “*Urbanization Paths in China's Several Developed Areas*” launched by the State Ministry of Construction, there are five factors contributing to the progress in Chinese urbanization: state planned investment, self-development and expansion of big and middle cities, rural industrialization, foreign direct capital, and the development of the local economy (Qi and Xia, 1985).

3.2. The period with constructed and borrowed theories (1984-1988)

In August 1980, China launched special economic regions such as Shenzhen, Zhuhai, Shantou and Xiamen in Guangdong and Fujian coastal areas; in 1984, China opened 14 coastal cities such as Guangzhou, Beihai, Fuzhou, Ningbo, Nantong, Tsingdao, Yantai, Weihai, Tianjin, Qinghuadao and Dalian; in January 1985, the central government and the State Council jointly held a meeting by gathering leaders in the *Yangtze River Delta Area*, the *Pearl River Delta Area*, and the *Xia(men)Zhang(zhou)Quan(zhou) triangle Area* in south Fujian Province, proposing to open the three regions in the coastal area. Along with the opening up of China's eastern coastal areas, the factors driving Chinese urbanization changed from intrinsic to external, which lead the setting up of frameworks of Chinese urbanization research

and the borrowing of urbanization theories from western countries.

At the beginning, Chinese sociologists focused their studies on independent theories on Chinese urbanization. Fei (1984) investigated Wujiang County in Jiangsu Province and later on published *Small Towns, Big Problems*, concluding that small towns are rural political, economic, and cultural centers, and that to construct small towns is the way to develop the rural economy and to provide job opportunities for rural population. Fei (1985) also published *Small Towns, More Explorations*, proposing to greatly promote village and town enterprises in small towns so as to encourage the moving of surplus rural laborers and to establish the special status of these enterprises in promoting a comprehensive rural economic growth in multiple fields. Fei (1986) published *Small Towns, New Development*, discussing the status and functions of small towns in China's Four Modernizations (agricultural modernization, industrial modernization, modernization of national security, and the modernization of science and technology). In 1987, Jiangsu research team of small towns published *A Regional Analysis on Small Towns*, and in its Preface, Fei further reinforced the significance of developing small towns and questioned whether the "Sunan Model" of urbanization featuring the moving of rural population without leaving their hometown as well as whether small scale land operation method in the unit of individual family by contracting farming land to individuals would contribute to a sustainable rural economic growth (Jiangsu research team of small towns, 1987).

In 1985, China introduced reforms policies in urban areas²; state-owned enterprises, community enterprises, and free market of agricultural products have become places to be reformed, which greatly promoted the borrowing of research fruits on urbanization concluded in western countries with market-oriented economy.³ At this stage, the focus is the introduction of foreign research results on urbanization, especially the translation of foreign urbanization theories and the analysis of historical process of urbanization, development rules and spatial patterns of urbanization, dynamics and urban problems of urbanization in foreign countries. Xie and Deng (1996) introduced the S-Curve measuring urbanization level.⁴ Li (1986) adopted a comparative approach to study the urbanization levels in different countries. Some scholars translated many famous works and articles about urbanization, including geographical issues about US Modern Urbanization by Gormansinsky

(1986), an expert from the Soviet Union. Some Chinese scholars began to cooperate with their foreign counterparts in studying Chinese urbanization (Zhou and Bradshaw, 1988). During this period of time, Hu (1986) introduced the effects of urban agglomeration and size economy. All these efforts laid a solid theoretical foundation for more in-depth research on Chinese urbanization.

During this period of time, the focus of this urban research is the guideline for urban development (Zhou, 1984) and the development stages (Zhou, 1984; Yu, 1988). The urban research starts to select some topics to study Chinese urbanization at the national level (Sun, 1984b; Wang and Han, 1986; Zhou and Yang, 1986; Xu and Anthony, 1986; Chen, 1987; Yu, 1988), some of them at the regional level (Zong, 1988; Yu, 1988), some other at rural areas (Shui and Wu, 1984; Sun and Lin, 1988), as well as on urban climate (Shen, 1986; Zhang, 1984). Zhou (1984) also gave some features and development trends of Chinese urbanization (Ma, 1983; Lin, 1984), while Song and Gu (1988) built a framework of the urban system planning based on the studies of both city planning and urban geography in China.

At the same time, in order to meet actual demand of growth in urban China, the State Statistical Authority included much new urban statistical data for quantitative research on Chinese urbanization. On the basis of this measurement revolution, a large amount of statistics, and urbanization models developed in western countries, geographers made quantitative studies on Chinese urbanization. Liu (1987) made a case study on the urbanization in Wenzhou area in Zhejiang province, concluding several features of high urbanization level, rapid growth, and the leading development of small towns, believing that the leading driving forces behind the Wenzhou Model of urbanization include the role of family enterprises, specialized markets, overpopulation, the extreme shortage of farming land that encourages the floating of rural surplus labourers, and the enthusiasm of affluent farmers in constructing towns. Yan (1988) adopted correlation analysis of Gray System Model Approach to study the mechanism promoting urbanization among different regions and at different stages in China. Xu et al (1988) drew the conclusion after study that the Chinese urbanization process had been greatly affected by the planned economic system, township enterprises and export-oriented economy. While Ye et al. (1988) emphasized the leading role played by big cities in urbanization and three channels for the moving of surplus rural laborers: moving to big, middle and small cities; farmers or township enterprise staff moving to the nearest towns or organic towns with self-supplied provisions shall be calculated as non-agricultural population; leaving farming work without leaving hometown.

3.3. The period focusing on key factors and localization (1989-1997)

In 1988, China reformed its land-use and land property system,⁵ and the use of land changed from administrative

²In the early stage of reform and opening-up, the urban reforms lagged far behind rural reform in China. With planned economy, commodities were purchased and sold on a planned basis and everything sold in cities were available with coupons. On 25 December 1978, the first state-owned river aquatic products warehouse was founded in Guangzhou City; in March 1979, Guangzhou became the first in China to reform on the consolidated aquatic products marketing system and allowed non-wild fresh and iced fishes to be marketed freely. Later on, the city also introduced the reform measures to vegetable markets. In April 1985, the aquatic products markets in Guangzhou were completely open, starting the reforms in cities.

³In 1985, geographers in China and the US started to cooperate in studying urbanization in China.

⁴Xie Wenhui, *Urban Economics*. Beijing: Tsinghua University Press, 1985, 52-58.

⁵In 1982, the Constitution was promulgated and put into force. In 1987, the state-owned land use right was first transferred in Shenzhen. In 1988, the amended Constitution confirmed the necessity of the flow of land use right in the market and granted constitutional status on it.

allocation to a paid use, making a large amount of financial resource to be used in the construction of urban infrastructure. The reform measure affected urban development as well as relevant practice of urbanization in a large sense. During this period, the research topics focus on some case studies of urbanization in previous level in China after the adoption of reform and opening-up policies (Meng, 1992a; Chen and Wu, 1995; Lin, 1994; Wang, 1994; Wu, 1994; Yang, 1993; Wang and Luo, 1993). Chinese urbanization is defined as “a process during which laborers move from agriculture to manufacture and from countryside to urban areas”, but the population growth is severely out of line with the growth of employment in China (Meng, 1992a), making it impossible to realize a balanced process of urbanization. Therefore in the 1980s, China greatly promoted town and village enterprises in the hope of absorbing surplus labor in rural areas with local industries so as to relieve the pressure on cities caused by the number and quality of rural laborers (Meng, 1992b). Gu (1995) studied the development of Chinese organic towns as well as regional difference and spatial evolution after 1949, arguing that foreign scholars adopted such approaches of ideological analysis, class analysis, and economic analysis and concluded on the anti-urbanization trend in China, but this was not the case. Urbanization is closely related to the urban system development level, to the regional economic and social development level, and to the geographical expansion (Qin, 1994). The path of Chinese urbanization remains the focus of research (Bao, 1995; Wang and Luo, 1993; Zhao, 1990; Yang, 1990; Meng, 1992a; Wang, 1994; Yan, 1995; Zhang, 1995; Zhou, 1997; Zhao, 1997; Wang, 1997; Ning, 1997), while another key content of research was the urbanization process in some typical areas such as the Yangtze River Delta (Zheng, 1994; Zhang, 1992; Qin, 1994; Wu, 1994). Other topics include national strategies of Chinese urbanization (Gu et al., 1997; Yao et al., 1997; Gu, 1991), and the guidelines on urban development decided according to urban size role (Hu, 1990; Lin and Ma, 1990; Wang, 1990; Chen, 1996a, b). More scholars started to explore extensive topics including the exploration of Chinese urbanization path (Ma, 1990a, b; Zhao, 1996), the main elements of Chinese urbanization, such as rural urbanization (Gao, 1990), population urbanization (Ma, 1990a, b), urbanization under regional economic development (Wang, 1991), land-use and urbanization (Dong et al., 1993; Hao, 1994; Du and Xu, 1997; Jin, 1997), urban inner structure (Mou and Liu, 1994; Lin, 1994), and dynamics of migration (Cai, 1990), urban infrastructure and service facilities (Shi, 1991), the role of women (Yang, 1994), the household registration system and foreign direct investment migrants among urban and rural areas (Zhao, 1997), and the investment environment (Cheng, 1995).

At the same time, the studies of regional urbanization have been further emphasized, Gu (1991) made tentative studies on the division of urban economic areas in China, and the studies on regional urbanization have proved to be fruitful, such as the studies on urbanization in West China (Zhang, 1992), in urban agglomeration in middle Liaoning Province (Dong and Liu, 1991), and in the Yangtze River Delta Area (Marton, 1996). After Hong Kong was handed back to China, the Shenzhen-Hong Kong area became hot research topics (Yan and Leng, 1997; Zhu and Wang, 1997;

Li, 1997; Lin, 1997). Furthermore, more new topics came to the horizon of the researchers, including the hidden urbanization phenomenon (Zhong and Yuan, 1993), urban physical boundaries (Zhou and Shi, 1995), rural urbanization (Li, 1995; Chen and Wu, 1995; Zhang, 1996; Li and Xie, 1997; Song, 1997; Wei, 1997a; Zou and Liu, 1997), urban social space (Xu et al. (1989); Gu and Kesteloot, 1997a, b; Hu, 1997), the urban fringe (Gu et al., 1993), and the world cities (Pang, 1996).

Chinese scholars found that urbanization theories from foreign countries could not explain all the issues and problems of Chinese urbanization during this period (Han and Chi, 1995; Wu, 1995; Yan, 1990; Zhao, 1993) and started to localize western theories on urbanization. After Deng Xiaoping made his famous tour inspection to the South China in 1992 and had a series of speeches, China further promoted the degree of reform and opening-up as well as urbanization process, which made the researches on Chinese urbanization become more localized. Liu (1999) summarized the features of Chinese urbanization from bottom to top. Liu made some analysis on the dual social structure in urban and rural China and concluded that 14 specific social systems finally created the dual social structure in China. These 14 systems include household registration system, grain supply system, non-staple food-stuffs and fuel supply system, urban housing supply system, production materials supply system, education system, employment system, health system, pension and insurance system, labor security system, talent system, military service system. He also emphasized the importance of capital and land for rural urbanization. Gu (1991) discussed four main elements for rural urbanization, that is, industrialization, rural modernization, the urbanization of surplus labor force, and migration, concluding that the lagging urbanization area was the result due to many restrictions, such as the provision of commodity grains in cities, the provision of urban housing, the industrial structure, the urban ownership system, the inadequate development of the tertiary industry, the scattered industrial distribution, and the lagging of urban infrastructure.

More scholars summarized the comprehensive urban reform achievements and found that, in order to promote Chinese urbanization process, it is required to reform land-use and housing systems (Wang and Luo, 1993). Chen (2002a, b) pointed out in the Preface to *Policies and Practice of Urban Development in Small Towns* during its urbanization process, China managed to relieve the pressure caused by surplus rural labor on big and middle cities through local absorption of this labour force. Rural urbanization becomes the leading guideline and policy on urbanization in China.

3.4. The period with strong governmental support (1998-2004)

The Asian Financial Crisis broke out in 1997 and China also faced a difficult economic situation, with foreign trade and exports dropping greatly. The Central Committee of the CPC and the State Council adopted active financial policies, solid and healthy monetary policies, constructing infrastructure by issuing national debt through banks so as to make full use

of surplus productivity. During 1998–2000, the total amount of public debt issued for urban infrastructure construction reached 360 billion RMB, investing in highways, electric railways, flood control in the Yangtze River, and ecological and environmental protection projects, which drive domestic demand and promote the integration of urbanization and industrialization, serving as the engine for the national economic growth. It also meant that the role of urbanization in promoting national economic and social growth was recognized by government leaders and policy makers, indicating that urban research entered a new stage with strong support from the government.

China's National Development and Reform Commission started research for the compiling of *The 10th Five-Year Plan* and included topics on urbanization in 1998. According to *The 10th Five Year Plan on National Economic Growth and Social Development* published in 1999, Chinese urbanization is a new engine promoting the modernization in China. Moreover, the importance of "implementing the strategy of urbanization" has been reinforced in both *Urbanization: the Mainstream of Modernization in China* published in 2001 by the National Development and Reform Commission and in *The Report to the 16th CCPC* in 2002. China included the studies of urban development and urbanization into national middle-and-long-term science and technology development planning in 2003. The National Development and Reform Commission joined hands with the experts from the World Bank in studying Chinese urbanization, proposing the concept of *dual urbanization* so as to actively promote the construction of new socialist countryside in 2004. The 11th Five-Year-Plan for national economic growth and social development made a clear strategy of actively and steadily promoting Chinese urbanization process in 2005.

During this period of time, both top-to-bottom and bottom-up urbanization started to show their respective weakness, while government, enterprises, and individuals became the new driving factors for Chinese urbanization (Ning, 2000, 1998; Li et al., 2000). The new type of Chinese urbanization mainly appeared in the east coastal areas, while in inland areas, urbanization still relied mainly on one or two driving factors (Ning, 1998). In the late 1990s, along with the rapid growth of both urbanization and research teams, especially with the development of the *Pearl River Delta Area*, the *Yangtze River Delta Area* and the rising of urban agglomeration in China, research started to focus on comprehensive studies of the dynamic mechanism for Chinese urbanization. Ning (1998) argued that the role that the capital played during Chinese urbanization process, especially in the east coastal areas, and the role that local governments played in metropolitan areas in the Pearl River Delta Area and the Yangtze River Delta Area were different from that in foreign countries relying heavily on the development of metropolises. Moreover, other driving factors include the changes of industrial structure, the technological progress, the control of national policies, and the urban and rural interaction (Duan and Li, 1999). Cui and Ma (1999) also emphasized the importance of policies, capital, and community government in promoting Chinese urbanization. Internationalization strategies also have great impact on the Chinese urbanization (Zhao, 2000a); other important driving factors include institutional innovation (Tang, 2000)

and market, resources, and new division of labour (Zhao, 1999, 2000b). Gu and Liu (2000) believed that institutional changes and arrangements are core to Chinese urbanization. Except for sociologists including Fei Xiaotong focusing their study on small towns, most scholars adopted multiple perspectives in studying rural urbanization. Zheng (1998) systematically explored the basic theories on rural urbanization and the mechanism on small towns and decentralization, proposing that urban and rural segmentation system causes the unique operation mechanism for Chinese rural urbanization.

Along with the extensive engagement of economics in urban China studies, the research on urbanization is closely related to the following issues: sustainable development, the industrial structure in transition, land and labor markets, the issues of agriculture, farmers, and countryside. In his *Urban Agglomeration Economy: General Theories and their Application in Solving Urbanization Issues in China*, Feng (2001) adopted an approach of spatial economics to investigate the economic efficiency of cities with different size based on urban agglomeration economic theories. Lu (2002) proposed that the focus of research on Chinese urbanization shall be changed from its path to its mechanism, that the basic framework on Chinese urbanization studies shall be further improved, and that the necessity and feasibility of rural social security and insurance system shall be investigated and could be realized by exchanging security with objects. Li (2002) believed that urban and rural integration is a key to solve the problem of surplus rural labors. Wang and Chen (2002) studied the labor re-allocation during urbanization process in Zhejiang Province, analyzed the actual development of labor market and non-regular employment in the province; they also mentioned the employment system and social security system. Huang and Wang (2002) argued that the reason why urbanization lags behind industrialization is the current land-use and land property system.

At the same time, the studies on guideline of urban development and on path of urbanization in China continued. Zheng (1998) focused on rural urbanization and the mechanism of small towns and decentralization, believing that the urban and rural segmentation system is the major reason behind the unique operation system of rural urbanization in China. Through constructing an index system and analyzing regional difference, he concluded that the research perspective on urbanization should change from city alone to city-region. Liu (1999) believed that the most appropriate path for Chinese urbanization is decentralized urbanization focusing on the growth of small cities and towns. In terms of population urbanization in China, there are four models of *Panzhihua*, *Wenzhou*, *Sunan*, and *Zhuhai*. With the guideline of achieving sustainable development and in terms of moderate population urbanization process, the strategy for future population urbanization must be diverse in model options, be decentralized in path options, be hierarchical in regional options, be comprehensive in efficiency options, and be staged in process options.

Furthermore, regional urbanization remained as the focus of research, especially the comparative studies of relatively developed areas (Cao, 2001; Duan, 2002; Li and Wang, 2002; Zhang and Gu, 2002). Most scholars studied regional

urbanization by administrative regions or economic regions. According to incomplete statistics, a large amount of researches have been made on *Heilongjiang*, *Liaoning*, *Shanxi*, *Taiwan*, *Zhejiang*, *Shanghai*, and *Jiangsu* (Gu, 1997; Cheng, 2000; Yu and Zhao, 1999; Tang and Yao, 1999a, b; Hou, 1999; Pei, 1999; Yang, 2000; Guo and Bai, 2000; Sun and Lin, 2000; Zhang, 1996; Yang and Zhang, 1996). Many scholars also included new phenomena of urbanization caused by the political and economic changes in both the world and in China to study the institutional changes, the adjustments made to administrative division, the policies of “upgrading county to municipality” and “changing county to urban district”, and city planning (Li, 2002; Zhao, 2001; Chen, 2002a, b; Zhang, 2002; Zhang and Gu, 2002; Qiu, 2002; Wang, 2002a, b, c; Zou, 2001; Zhang, 2001). Other topics on Chinese urbanization included industrial bases and new types of urbanization (Zhang et al., 2004), information or network cities (Wang and Ning, 2004), and the urban social space during the transitional stage (Gu et al., 2003).

3.5. The flourishing period (After 2005 until now)

Since the *National Tenth Five-Year-Plan* emphasized urbanization in the plan for the national plan of economic growth and social development, together with the great promotion of government on the researches on Chinese urbanization. The *Outline of National Middle-and-Long-Term Science and Technology Development Plan* (2006-2020) listed the research on technologies of urban development and urbanization as the 11th topic for the first time, which made the research on Chinese urbanization have an unprecedented flourishing. During two years from 2005 to 2006, there were 23 papers on Chinese urbanization published in *City Planning Reviews* (in Chinese), 20 in *Urban Studies* (in Chinese), 8 in *Economic Geography* (in Chinese). During three years from 2005 to 2007, there were 22 articles on Chinese urbanization published in *Urban Problems* (in Chinese), 33 in *Acta Geographica Sinica* (in Chinese), 7 in *Geographical Research* (in Chinese), and 13 in *Human Geography* (in Chinese), with six articles on urbanization being published in each journal every year on average. The specific topics include during that time: *Urbanization in China and Its Sustainable Development* (Ye, 2007), *Chinese City Bearing Capacity and Crisis Management* (CAST, 2008), the changes of rural land-use during urbanization process (Li et al., 2007; Su et al., 2007), semi-urbanization phenomenon (Liu et al., 2005), dynamics of rapid Chinese urbanization (Chen et al., 2004; Fang and Liu, 2007), the roles of government during urbanization process (Lin, 2006), social justice (Ren, 2006), urban village (Zhu et al., 2006), institution and its restriction (Zhao, 2006), public policies on urbanization (Gu and Gu, 2006), mega-city regions (Zhang, 2006; Yan et al., 2006), rural urbanization and new rural villages (Xie, 2005; Ye et al., 2005; Li and Li, 2005; Li and Wang, 2006), a urban and rural harmonious development (Yuan et al., 2005; Zhang et al., 2006), passive urbanization (Zhang and Gu, 2006), the impact of mega-projects on urbanization (Zhao, 2006a, b, c, d), the globalization and reconstruction of national urban system (Gu et al., 2005),

the impact of urbanization on the diversity of soil, hydrology, and regional climate (Sun et al., 2006; Xie et al., 2007; Lin and Zuo, 2007; Liu et al., 2005; Yuan et al., 2007), urbanization and ecological environment coupling model (Liu and Song, 2005), the process of man-made land form in cities, issues of public health during urbanization process (Yu and Gao, 2007; Zhang et al., 2007), urban expansion (Jiang et al., 2007; Ma et al., 2007a, b), and the growth alliance and urban governance (Luo and Shen, 2006b, 2007). Yeh et al. (2006) concluded that the fourth wave of urbanization started in China, while Zhou (2006) emphasized that China must stick to an urbanization path with its own distinct characteristics.

4. Overseas studies of Chinese urbanization

The overseas studies on Chinese urbanization can be dated back to the early 20th Century, and most of the first researchers are sinologists engaging in Chinese studies; accordingly, they usually adopted such approaches of history, sociology, human sciences, and folk-custom and culture. For example, Japanese scholar Kato Shigeshi (1937) studied a large amount of local records from the Qing Dynasty under the reign of Emperor Kangxi, Qianlong till Guangxu and Xuantong and then to the Republic of China (1912-1949), and investigated the regular markets in Zhili (Hebei), Shandong, Shanxi, Henan, Fujian, Guangdong, Guangxi, publishing *Regular Rural Markets during Qing Dynasty*. Since 1950s, the isolation of China for a period of time attracted another group of foreign experts in politics, economics, and geography (Ma and Hanten, 1981). After China adopted reform and opening-up policies in the 1980s, a large number of overseas Chinese students also engaged in the research team, further promoting the overseas studies on urban China to a new peak. In general, however, due to the lack of detailed and reliable data and the separation from Chinese academic community for a long period of time (Ma and Noble, 1986), the overseas studies on Chinese urbanization still lag in a vacuum area between theories and actual practice.

4.1. The period focusing on history of Chinese urbanization (before the 1970s)

Before the 1960s, foreign scholars mainly explored the reasons why capitalism and then western urbanization have not been achieved in such a country as China with long history and profound cultural background. Weber and Gerth (1951) argued that Confucianism serving as the ruling ideology in China prevented the country from developing capitalism and urbanization while promoted the growth of ruralism. According to US research team on the modern history of China, whose representatives include Fairbank and Liu (1978) with his impact-response model and Levenson (1959) with his tradition-modernity model, Chinese society basically experienced a long-term cycle or a status of stagnancy and its evolution toward modern society only occurred after the great impact by strong western countries in middle 19th century.

Paul (1989) once criticized this point of view as being typical “occidental-centered”.⁶

During 1960s-1970s, the younger generation of US historians criticized the occidental centered theories on the one hand, and on the other hand, they actively advocate empirical studies based on the actual situation in China. Skinner, who was from the Department of Anthropology at Stanford University, is a representative adopting Chinese-centered perspective in studies and, based on the central place theory of Christaller, he conducted a field investigation during 1949-1950 on *Gaodianzi*, a market 25 km away from southeast *Chengdu* in *Sichuan* Province, interviewed a large amount of overseas mainland migrants, and studied many local records, publishing his *Marketing and Social Structure in Rural China* (1964). Later on, with years of efforts, he published *Regional Urbanization in China during the 19th Century*, and edited *The City in Late Imperial China* (1977).

At the same time, most geographers studied Chinese urbanization from the perspective of historical geography. For example, *Chang* (1961, 1963) studied the geographical distribution of cities during the *Qing* Dynasty and the historical trend of urbanization in China, *Trewartha* (1952) studied the origin and function of Chinese cities.

4.2. The systematic research on Chinese urbanization (1970-1999)

In the 1970s and especially after 1979, the reform and opening-up policies actively urged China to join in the wave of urbanization in the world, and overseas scholars started to conduct systematic studies on Chinese urbanization. Due to different perspectives in observing issues, they usually held different opinions on Chinese urbanization from those believed by domestic scholars.

As for these researches, most scholars paid attention to the impact of industrialization on urbanization. *Kirkby* (1985) believed that the slow urbanization process in China is the result of over-emphasizing the established goal of industrialization. In order to realize the goal, China ignored the construction of urban infrastructure and the expanded re-production of rural economy but invested in heavy industries instead, which weakened the driving force for further urban development. *Cannon and Jenkins* (1990) further explored the topic and argued that the distribution of Chinese industries was actually a practical choice made under special historical conditions, but the decentralized industrial pattern prevented the further process of urbanization in a large sense. The studies made in the late 1990s started to take comprehensive consideration on the joint impact of both agriculture and manufacturing on Chinese urbanization (*Young and Deng*, 1998), and emphasized that

the effective food supply restricted the rapid growth of urban population (*Tang*, 1984). *Yin Wang Kowk* also started to pay attention to the impact of information industry and multi-national companies on the urbanization in developing countries and, on the basis of reviewing relevant theories on foreign information industry, analyzed the impact on urbanization of information industry employment, foreign investment and domestic education development in the countries in the Asia-Pacific Region (*Kowk and Ou*, 1989).

Due to the lack of reliable and universal data and statistics, the overseas studies on the Chinese urbanization are greatly different from those made by domestic scholars. For example, *Chan* (1994) made regression analysis based on the data in the early 1980s, concluding that the urban population was in positive correlation with the average rural grain output in a province; while *Young and Deng* (1998) introduced a supply-demand model of urbanization to investigate the urbanization process in China based on the joint function of industry and agriculture, concluding through the analysis on the data of 1978-1991 that agriculture played a more important role than industry and that the entire urbanization process was still restricted by relatively low agricultural product supply. Another example is the overseas studies on the process of Chinese urbanization. They divided the entire process into three stages starting from 1949 according to the level of urbanization: 1949-1960, 1961-1976, and after 1978 (*Kirkby*, 1985; *Chan*, 1992). After 1978, the adoption of reform and opening-up policies and the strategy of the Four Modernizations broke the long-term stagnancy of urban development in China (*Ran and Berry*, 1989). But their understanding on urbanization level in China differed greatly; some believed that China has always been in a status of underurbanization (*Perkins*, 1969; *Lardy*, 1982; *Chan*, 1992, 1994), while others argued that they spotted overurbanization during certain periods of time in this country (*Kirkby*, 1985; *Ran and Berry*, 1989).

Other topics of research during this period of time also include: the urban forms in China (*Chang*, 1970), city network (*Rozman*, 1973), urban system (*Chang*, 1976), the relationship between national development and the process of urbanization (*Chiu*, 1980; *Leubg and Ginsburg*, 1980; *Ma and Hanten*, 1981; *Chang*, 1981), provincial difference in terms of urbanization (*Yeh and Xu*, 1984), urbanization growth models (*Pannell*, 1986), the development of small cities (*Ma and Lin*, 1993), foreign investment promoting urbanization (*Sit and Yang*, 1997a, b, c), and the urbanization path in China (*Zhu*, 1999). Many scholars emphasized that the development of coastal areas in China, especially the development of cities in southeast coastal areas after 1978, had direct relation with the favorable national policies (*Lin*, 1997; *Wei*, 2000). The 4th issue of *Urban Geography* in 1986 and other research books on urbanization in the developing countries also explored other issues on Chinese urbanization (*Jones and Visaria*, 1997; *Gugler*, 1997).

The City in Late Imperial China by *Skinner* (1977) and *Urbanization in China: Town and Country in a developing economy 1949-2000 AD* by *Kirkby* (1985) are among the most important works on Chinese urbanization during this period of time. Other important researches include the studies made by *Chan* on household registration system and on the urbanization in China, and the studies made by *Shen* on urban and rural migration (*Chan*, 1994; *Shen*, 1995).

⁶Paul A. Cohen (1934-) studied the history of Chinese ideology and the history of relations between China and western countries after Professor John K. Fairbank and Professor Benjamin I. Schwartz at Harvard University in 1955 after graduation, and got both master degree and PhD degree. *Discovering History in China: American Historical Writing on the Recent Chinese Past* is his masterpiece and marks the end of Fairbank Era, pointing out a new path for western scholars in studying Chinese problems, that is, to study the history and current status of China based on internal causes instead of external force and causes.

4.3. Studies on framework of Chinese urbanization (after 2000)

In the 21st Century, Chinese urbanization has been universally recognized as one of the two main driving factors promoting world economic and social growth. Accordingly, the world leading research institutions (including UN-HABITAT, the World Bank, International Systems Institute USA, The Ford Foundation, and JETRO) and leading researchers (such as Peter Hall, John Friedmann, and John Logan) turned their eyes on the studies of Chinese urbanization. Logan established the *Urban China Research Network* in the University of New York at Albany, USA after the large scale international conference on *The Future of Chinese Cities: A Research Agenda for the 21st Century* in Shanghai in 1999. And during the third annual meeting of *Urban China Research Network* held in Hong Kong, a scholar made a prediction that the studies of urbanization in China lagged far behind the developed western countries and the framework launching of Chinese urbanization has to rely on works of Anglo-Saxon scientists. This conclusion seems to be ridiculous today after Chinese people successfully launched its moon exploration project in 2007, but in 2004, this was an actual scene in Hong Kong.

During this period of time, international leading scholars published many important works on Chinese urbanization. Blackwell Press published *The New Chinese City: Globalization and Market Reform* by Logan in 2001. Friedmann published *China's Urban Transition* in 2005. Friedmann published *Four Theses in the Study of China's Urbanization* in *International Journal of Urban and Regional Research* in 2006, emphasizing that to research Chinese urbanization one must firstly recognize that China is a country with an ancient urban civilization but at the same time with an unprecedented urbanization today, resulting in the dual features of urbanization progress in China. Second, the Chinese urbanization is a process of multi-dimensional social and spatial development, covering at least seven aspects in history, economy, society, and culture. Third, although the urbanization process in China interacts with the process of globalization, yet in terms of urban and rural relationship, it shall be firstly understood as an endogenous process, which will guide the special modernization with distinct Chinese characteristics (Friedmann, 2006). In 2007, Friedmann published on the same journal *Reflections on Place and Place-making in the Cities of China*, making studies on the small space of Chinese cities. He roughly divided the process of urban area creation into four periods: the period of empire, the period of the Republic of China (1912-1949), the period under the rule of Mao, and the period after reform and opening-up launched by Deng, and proposed several topics for further investigation and studies.

Furthermore, the overseas studies on the Chinese urbanization became flourishing during this period of time. Fan (2002) analyzed the regional population growth in China, arguing that population growth is closely related to economic growth; and the geographical division of East China, Middle China, West China based on economic growth level makes it convenient to analyze and explain current regional difference in economic development and has practical significance in the studies of regional urbanization (Marton, 2000). Shen studied urban population statistics and floating population (Shen, 2002; Shen and Huang, 2003; Shen, 2005).

Zhang (2002) compared and analyzed the data in a long period of time and of different regions, concluding that foreign investment played an important role in promoting regional urbanization in China, although national policies, regional economic growth, and other historical and geographical factors also contributed to the progress. Pannell (2003) introduced the research results obtained by Oshima in the studies of urbanization in East Asia and compared the changes of industries and population, explaining and analyzing the relationship between economic structure in transition and Chinese urbanization by employment shift. This model found several actual examples in some coastal areas in China, but due to the large population in China, it cannot be applied in the entire country. After all, with a working population of more than 700 million, it is just too much for the employment opportunities provided by national economic growth. Some scholars found reasons from the institutional obstacles caused by a long-term planned economic system (Lin, 2002).

The 12th issue of *Urban Studies* in 2002 published the research results on the Chinese urbanization, covering such topics as factors deciding on rural industrialization, internal migration, and urban migration (Chen and Coulson, 2002; Li and Zahniser, 2002), urban unemployment, floating population, cities in transition (Logan, 2001; Sit, 2001), urban economic growth (Lin and Song, 2002), urban productivity (Pan and Zhang, 2002), the urbanization after reform and opening-up (Zhang, 2002), urbanization and city distribution (Song and Zhang, 2002), population growth, the role of government in urbanization, the analysis of political economics.

Recent researches include the dual urbanization in China (Yeh, 2005; Shen, 2006a; urbanization promoted by the state government (Cook, 2006), the measurement of urbanization level in China (Zhuo et al., 2003; Shen, 2006b), the impact of resources on urbanization (Wong and Shen, 2002), the rules of urbanization under socialist market-oriented economy, and the transformation of urban social spatial structure (Cook, 2007a, Gu and Shen, 2003; Gu et al., 2006). Chinese urbanization in transition attracted the attention of many scholars (Cook, 2000, Smith, 2000; Logan, 2001; Ma, 2002; Pannell, 2002; He et al., 2006; Ma and Wu, 2005; Wu, 2006).

5. Main achievements of Chinese urbanization studies

Although China started late in the research of urbanization, yet on the basis of national strategy on urbanization, the academic community has undertaken many studies on Chinese urbanization, obtaining mainly achievements as follows:

5.1. Policies of urbanization in China

5.1.1. Guideline on urban development

Since 1978, on the basis of the research fruits on urbanization in China, the state has decided step-by-step on the guidelines for urban development. In 1980, the State Council approved *Summaries on National City Planning Work Meeting*, confirming the guidelines of "controlling the size of big cities, developing reasonably the middle cities, and promoting actively the growth of small cities".

According to the *Law of City Planning* adopted in 1989, “the state shall guide itself by the principle of strictly controlling the size of large cities and developing medium-sized and small cities and towns to an appropriate extent in the interest of a rational distribution of productive forces and of the population.” In the late 1990s, *China’s Agenda 21* proposed new goals for urbanization, that is, to moderately control the fast growth of population in big cities, to develop satellite cities of large cities, to actively and moderately develop medium-sized and small cities, and to greatly promote the growth of towns.

A debate on the issues of guidelines for urban development in China focus on how to control large cities and to develop small cities (Zhou, 1988), some scholars support the strict control on large cities (Dong, 1996), some believe that the right thing to do is to actively promote the growth of small cities and towns (Peng, 1998; Ning and Jiang, 1999; Chen, 2000a, b, c, d), or at least to reasonably develop small cities and towns (Chen, 1996). Some scholars questioned the principle of strictly controlling the size of large cities (Shi, 1999a,b; Chen, 1996a, b); in view of both domestic and international social and economic situations as well as the difficulties facing the growth of small cities and towns in the late 1990s, urban geographers and city planners have reviewed and reflected the existing researches on the guidelines on Chinese urbanization (Jiang, 2002a, b; Li, 2002; Wu, 2004; Chen, 2005), clarified or re-explored some basic concepts including “city”, “region”, and “urbanization” (Hu, 2003; Wu, 2006; Liu and Jiao, 2006), analyzed more rationally the challenges and chances (Qiu, 2003a, 2003bc, 2003d), the crisis (Chen, 2006), and technological issues (Zou, 2004b) facing Chinese urbanization. Chen (2005) adopted a non-mainstream perspective and concluded more rapidly that the unilateral understanding on Chinese urbanization as well as the ideologies of western modernity, developmentalism and neo-liberalism would result in the distorting and misunderstanding of Chinese urbanization. The guidelines for urban development shall take into consideration more factors and shall be expressed in a more complete way (Chen, 2000a, b, c, d), be diverse in planning cities of different sizes (Yu, 1988), be based on actual local conditions (Chen, 1996a, b), be diverse, non-even, gradually promoted for a comprehensive development and shall focus on the construction of urban system or urban network (Gao, 1990; Shi, 1999b), shall focus on the active and sustainable urbanization (Zhou, 1998; Li, 2000; Ma, 2000), shall create a modern and sustainable urban system (Hu, 2000), shall be completely open and efficiency-oriented (Liu, 2000), shall take into the consideration the impact of globalization (Gu et al., 1997; Pang, 1996).

In the 21st Century, the discussions on Chinese urban development are no longer restricted in the limited scope of city size and new urban development guidelines, while the conflicts at the bottom of the urban development (Wang, 2003) as well as among population (such as restriction of the household registration system), resources (such as land), and economic development (such as the division of labour) have become increasingly concerned (Miao, 2003). The fundamental solution for Chinese urbanization is to continuously improve systems, to reduce transaction cost, and to improve division efficiency of labour (Chen, 2006). Because the Chinese urbanization is not only

a process during which rural non-agricultural population turns into urban population, it is also a process during which cities play an increasing leading and important role in political and social changes, which makes it a social reform for countryside to turn into cities (Wu, 2006). In this sense, the leading direction for the Chinese urbanization is a healthy development (Li, 2003; Chen, 2005), quality (Zhang, 2001), and distinct characteristics (Zou, 2004a; Qiu, 2005; Zhou, 2006).

5.1.2. Path of Chinese urbanization

In response to the discussion on the guidelines for urban development, the debate on Chinese urbanization path was also strong during the 1980s-1990s, with many paths focusing on small cities, on large cities, on medium-sized cities, on a harmonious development, and on the urban system.

- (1) Focusing on small cities: in 1983, *Seminar on Urbanization Path in China* reached a concurrent conclusion that China shall stick to a socialist urbanization path suiting the actual conditions and with distinct characteristics, while at the same time, the regional urbanization paths shall also have different features (Wu, 1983). Both the seminar and the keynote report made by Wu (1983) focused on actively restoring and developing small cities and towns, especially rural markets on the basis of socialist productivity distribution theories and on the requirements of safety, for small cities conform to rationality and have vital force (Wang, 1990). After the reform and opening-up, with the reality of rural industrialization, the guideline of “*Small Cities and Big Strategy*”, as well as the continuous functioning of established urban and rural systems, this opinion became dominant during 1980s and in early 1990s in China.
- (2) Focusing on large cities: Feng (1983) argued that the focus shall be put on the development of “big and medium-sized cities with favorable conditions” as well as “central cities”. Rao and Qu (1989) clearly pointed out that big cities enjoyed more scale efficiency than small cities. Wang and Xia (1999) proposed the priority of developing cities with a population ranging from one to four million. Rao and Cong (1999) believed that the urban scale efficiency continuously played an important role and the restrictions on the size of big cities shall be moderated. Zhou (1998) proposed to firstly develop big cities in underdeveloped areas so as to create a “core” that can drive the development of medium-sized and small cities.
- (3) Focusing on a harmonious development: some scholars tried to find compromise between the two conflicting opinions and proposed a dual (or diverse) urbanization models of urban modernization and localization by focusing on rural urbanization and on constructing urban agglomeration as the center (Ning, 1997; Zhong, 2000) or by realizing a harmonious development among big, medium-sized, and small cities so as to find different development paths for East, Middle and West China (Yu, 1999; Chen and Hao, 2005).
- (4) Focusing on medium-sized cities: an editorial published in *Economic Perspectives* proposed the theory of

development focusing on medium-sized cities in 1984, but the research results are relatively unsatisfactory.

- (5) Focusing on urban system: along with the deepening of studies on urbanization, Zhou (1988) argued that “there is no universally acknowledged and accepted so called best city size, for urban system is always composed of cities and towns of different sizes, while cities at different levels have different requirements on conditions in order to grow”. Therefore the Chinese urbanization models shall be diverse. More scholars studied the development paths of urban system (Hu, 2000; Deng, 2000; Zhao and Cai, 2003).

Some scholars believed that the choice made on future Chinese urbanization path is actually decided by the choice on national development strategy (Zhao, 1990); Sun (2005) also warned against the tendency of making policies on Chinese urbanization based on the assumptions instead of on actual conditions.

5.2. Features of Chinese urbanization

Foreign scholars (Lo, 1987; Fan, 1999) admitted that, before the 1980s, the Chinese urbanization is a part of socialist urbanization and different from that in the west or in other developing countries. According to the mainstream opinion in the domestic academic community, the Chinese urbanization is unique in the world, it is just that, before the 1990s, people explained the difference with the advantageous socialist system, while after 1990s, the explanations changed to the fact that China is the most populous country in the world and the actual conditions in the country, which makes it in accordance with the guideline or path of the urbanization with distinct characteristics.

5.2.1. Characteristics of Chinese urbanization

In early 1980s, the characteristics of Chinese urbanization included “the slow growth of urban population, the continuous adjustments made to the proportion of urban population through planned and administrative measures, the sharp increase of both farming and working population in extensive rural areas” (Ma, 1983). In the 1990s, scholars had a better understanding on the interaction between urbanization and economic development and social transformation, and Gu (1991) pointed out that both urbanization and the industrialization serving as its foundation were initiated by the government in China, so that the urban development and rural urbanization progressed side by side at the same time. Since urbanization is low in capacity of absorbing non-agricultural laborers, the urban structure is inconsistent, rural laborers tend to change vocations instead of places to live, therefore, the leading characteristics of urbanization in the period when socialist market-oriented economy was firstly initiated in China include: the dual social structure, regional discrepancy, the inadequate capacity of absorbing surplus agricultural labors in cities, the surplus agricultural labor in rural areas, the coexistence of rural industrialization and urbanization, the moving of rural population through multiple channels, and the macro planned control (Fu, 1993). In the 21st Century, apart from continuous discussion of population, region, and industries,

a common focus for almost all scholars is the concept of sustainable development, which urges them to study the characteristics of Chinese urbanization include the continuous rapid growth, the extreme imbalance, the dependence on economic growth, the coexistence of urbanization and marketization, the only solution to the problems of agriculture, farmers, and countryside, the resource protection and damages (Qiu, 2003a, 2003bc, 2003d).

5.2.2. Level and speed of Chinese urbanization

The studies on the level and speed of Chinese urbanization can be roughly divided into three fields: (1) To question and to improve the concepts concerning urbanization level measurement including “city” and “urban population”. Due to the changes made to the standards of organic towns, the urban areas keep changing constantly, and the statistics on urban population made during several national censuses are not the same. Therefore, there is no solid foundation for researchers to compare the urbanization level measurement results at different time, even if on the basis of the same national census, there is no way to compare the urbanization levels in different provinces or different areas. Xu et al. (1997) and Yan (1994) described the phenomenon as “the statistical mystery in China”. (2) To explore and improve the urbanization level measurement methods. To improve the population urbanization level index (Shen, 1997; Shen, 2005; Chen, 2003a, c, b, d; Wang, 2001; Feng, 2002), to improve the land index of urbanization (Tan and Lv, 2003), and to construct comprehensive indices based on such factors as population, economy, society, living environment (Li et al., 2004; Hua and Niu, 2003; Qiu et al., 2006; Du and Wu, 2006), to measure the level of urbanization with grey correlation analysis (Liu et al., 2005), SPSS analysis and DEA (data envelopment analysis) (Ni and Bao, 2007). In terms of development trend, comprehensive index can better explain the complicated situation of Chinese urbanization. (3) To study the appropriate urbanization level in China. Some scholars believed that the Chinese urbanization lagged far behind (Wang, 2001); Zhong and Hu (2003) pointed out the weakness in methodology, Ge et al. (2003) and Zhou (2006) believed that the urbanization level in China was in line with its economic growth. Some noticed that during the 1980s and 1990s, the gap between urbanization and non-agricultural population employment level gradually reduced (Fan and Tian, 2003), that China shall moderately promote urbanization and the goals should not be set too high (Chen et al. 1999; He and Zhang, 2000; Peng et al, 2005). Chen et al. (2006) calculated and concluded that the Chinese urbanization would reach its peak around 2050, and its saturation value is about 80%. Therefore, we should pay more attention on the quality of urbanization (Zhou, 2006).

5.3. Dynamics of Chinese urbanization

5.3.1. Mechanism for Chinese urbanization

The mechanism of Chinese urbanization has always been a focus of study for the domestic and international academic community. Western classical theories on urbanization mechanism as well as the research results concluded in other developing countries were introduced to China and

had profound impact on domestic scholars. These theories are mainly on population moving and relocation, economic explanations, transport and communication, policies and institutions. Moreover, the introduction to China of the research progress on neo-liberal economics, neo-institutional economics, and neo-economic geography as well as the market-oriented economy, institutional changes and economic globalization caused by global political and economical pattern brought changes for studying the mechanism of Chinese urbanization.

Economy, politics, and population are closely related to population urbanization in China (Ma, 1990a, b; Zeng and Liu, 2006). The interest relationship chain composed of comparative interests, supplementary interests, and optional interests serves as the basic dynamic causing city agglomeration (Feng, 2005).

The evolution of industrial structure interacts with regional urbanization, for the orderly evolution of industrial structure results in the changes of urbanization mechanism and different models of regional urbanization; while urbanization supports, drives and bears the evolution of regional industrial structure (Li and Li, 2003; Li et al., 2004). The industrialization and the structural transition of rural laborers are the main driving force promoting Chinese urbanization (Fan, 1998; Sun, 1992; Miao, 1998; Cui and Ma, 1999). Collective economy and township enterprises (Cui and Ma, 1999), non-governmental economy and specialized industry cluster (Qian, 2004), foreign investment and export-oriented industrialization; these gradually became the mainstream of the studies on the industrialization as a driving factor. In other words, the industrialization in China adopted a path of dual urban and rural development after 1978, urbanization is along with industrialization; on the one hand, high consumption demand promoted economic growth and made the urban lifestyle extend rapidly to urban and rural areas; on the other hand, it also helped to get foreign investment and technologies (Gu, 2004). The development of the tertiary industry, such as the development of tourism (Lu et al., 2006; Zhou and Yu, 2004; Zhou and Liu, 2005) promoted the rapid urbanization (Liu, 2000; Chen et al., 2004; Lu and Chen, 2005) and improved quality of Chinese urbanization (Du, 2005). The unsatisfactory development of the service sector will cause a lagged employment structure transition and a low urbanization (Ma and Yin, 2001).

The transition of employment structure and the population moving are leading factors driving the Chinese urbanization (Ma, 1990a, b; Cai, 1990; Zhang and Yao, 1997; Zhao and Zhu, 1998; Liu, 2000). The wave of farmer workers results in crisis to the dual structure system formed during a long period of time and promotes the Chinese urbanization (Zhang and Yao, 1997). The minimum economic barrier of urbanization plays an important role in realizing a successful urbanization of rural population going to cities, while the core rule of the mechanism is the balance between the salary level of working population engaging in pillar industries of employment structure and the commodity price level in cities (Zhang et al., 2003). The employment structure transition lagging behind is a main obstacle preventing Chinese urbanization (Li et al., 2004). Education is of vital importance to urbanization, and vice versa (Zhang et al., 2003; Liu, 2000, 2001; He, 2001).

Other driving factors include transportation (Chen, 2004), communication (Yu 1988; Jiang, 2002a, b; Wang and Ning, 2004) and the infrastructure (Liu et al., 2006; Jiang et al., 2005; Li et al., 2005). Chinese urbanization interacts with the development of transport network and the two serve as cause and effect to each other (Chen, 2004). Urbanization also interacts with industrialization and informatization (Jiang, 2002a, b). In the 21st Century, city network composed of information cities appeared in China, and the Internet trunk lines connecting Beijing, Shanghai, and Guangzhou comprise the core of long-distance electronic communication in China. The construction of network infrastructure reinforces the competitiveness of cities, while geographic factors still play an important role during this process (Wang and Ning, 2004).

Such factors promoting Chinese urbanization as opening-up, new international division of labour, and economic globalization have been topics in 1980s and became the direction of rising studies in the middle and late 1990s. The geopolitics and the general international competition pattern have important and direct impact on Chinese urbanization, while the industrial policies and urban development models in China are also closely related to globalization (Zhao, 1999; Zhang et al., 2000; Guan, 2001). After 1996, the rapid urbanization was the result of the joint efforts of the government and the market, being promoted mainly by the tertiary industry; to continuously promote the reform of marketization and to deepen opening up, to innovate international trade and system; these will further speed up Chinese urbanization (Chen et al., 2004; Lu and Chen, 2005). Also, the local market is becoming the leading factor deciding urban development and even regional competitiveness (Zhao, 2006a, b, c, d). The impact of economic globalization on urban development is profound: urbanization progresses more rapidly, more new cities appear, big cities continuously grow rapidly, there are several metropolitan areas, suburban areas become flourishing together with the central urban areas, several metropolitan places are to be included in the global city system (China Urban Development Strategy Research Project Team organized by the State Ministry of Construction, 1999). The opening-up greatly promoted the construction of mega-city regions and the growth of urban space (Li et al., 2004), resulting in a new trend for urban spatial development in China. Under the economic globalization and regional economic integration, rational competitiveness and technology progress gathered in big and medium-sized cities, while cities shaped the innovation with material and energy input, innovation also affected cities with material and energy output, with time and space as the frame of reference, the interaction between urbanization and innovation had distinct features (Wang et al., 2007).

In the field of studying urbanization mechanism, since the late 1990s, the academic community reviewed and reflected on the main research results in the main driving factors, internal and external causes, industrial structure, main elements agglomeration, institutions, and education, proposing a diverse urbanization mechanism or an urbanization mechanism (Ning, 1998; Zhou, 1997; Ning, 2000; Xia and Li, 2000; Zhang, 2003; Xu et al., 2007).

Urbanization is closely related to resources and environment, therefore, the following analysis and researches greatly enrich Chinese urbanization mechanism: the analysis

on natural resources and capital (Jin and Qin, 2004; Zhao, 1999), the studies on restricting elements, such as ecological environment (Murray and Cook, 2002; Xue and Dou, 2003; Huang and Fang, 2003; Liu et al., 2005, 2006; Liu and Song, 2005; Liu, 2006; Gao et al., 2003), water resources (Huang, 1958; Mou and Liu, 1994), land resources (Xiong et al., 2006; Zhang and Zhang, 2004; Gao et al., 2001; An et al., 2002; Hao, 1994; Shen, 2001; Shen and Ye, 2004), climate change (Zhang, 1983, 1984; Shen, 1986; Chen and Pan, 1997; Zhou, 1983; Zhou and Zhang, 1982), natural disasters (Gu et al., 1992; Xu et al., 2006). From the perspective of realizing sustainable development, a new direction is the focus on ecology, and the inevitable trend is sustainable ecological planning (Cheng and Wang, 1998) and ecological control (Cook, 2007b, Li et al., 2005).

5.3.2. Roles of the institutions and governments

Governmental intervention is of vital importance in controlling Chinese urbanization. During the process of reforms, Chinese government played a leading role by setting up and carrying out relevant public policies in such fields as the moving of rural laborers to cities, the land property ownership and land-use models, the adjustment made to administrative division, as well as the increase of amount and size of cities (Gu and Gu, 2006; Mou and Liu, 1994), and the changes of administrative division, the creation of new towns, and the progress of population urbanization with the help of population moving policies and organic town construction policies (Ma, 1990a, b). The policies played a more important role than economic growth on population moving. From the collective planned moving in the 1950s to the moving to rural and remote areas in the 1960s and 1970s, in the 1980s, with the free economic elements being reinforced, many policies, including those on population, tended to be directive instead of being compulsory. Accordingly, the population moving tended to be more natural and the improvement of moving rate promoted the Chinese urbanization (Cai, 1990). The government also promoted the bottom-to-top urbanization and export-oriented urbanization. The former one was approved or supported by the government (Liu, 1998), for the state guidelines and government, farmers, external factors (domestic and foreign capital) jointly created a bottom-to-top urbanization (Cui and Ma, 1999), contributing to the formation of Chinese urbanization model in collective economic and development zones in Jiangsu Province during which the government played a leading role (Gu, 2004). The rural collective ownership system also resulted in the formation of a decentralized rural urbanization model in the Pearl River Delta Area (Li and Li, 2005). The alliance between the government and leading companies that is similar to that in western countries has been formed in Chinese cities and greatly promoted urban growth and even became the leading factor driving urban development in the construction of development zones (Luo and Shen, 2006a, b). The government could directly affect the spatial pattern of the urbanization through the means of city planning so as to achieve sustainable urbanization (Wang, 1997; Qiu, 2002; Wei and Yan, 2004; Li et al., 2005; Ding et al., 2003; Wang, 2003).

But to promote Chinese urbanization is not all that government and institutions have done, for with some traditional

institutions and policies, the spatial flow and concentration of main production elements were not reasonable, resulting in the imbalance of urbanization and man-made fluctuations (Lv, 1995; Liu, 2000; Zhu, 2003). After the reform and opening-up, being driven by such factors of performance and interests for local government, the Chinese urbanization faced unique institutional background and conditions, which causes many traps and difficulties for urbanization (Zhao, 2006a, b, c, d). Currently, the supervision on urban construction, the examination and evaluation on performance, the urban financial system, and land-use system, all these factors have profound impact on the actual performance of municipal government. With the impact, the actual performance of municipal government deviated in certain degree from the original plans of realizing a harmonious urban and rural development, of promoting domestic demand through urbanization, of solving the problems concerning agriculture, farmers and countryside, and of promoting intensive urban development, making cities tend to focus on production, while the capacity of gathering population becomes relatively weak, and therefore urbanization lags behind economic growth at the institutional level (Cai, 2006). The consequences include the problems of current household registration system (Yu, 1994), the defects of current farming land acquisition system and compensation system for farmers losing farming land (Liu, 2006), which resulted in the high cost of urbanization and a series of problems in urban villages and in the areas between the urban and rural areas (Fang et al., 1999).

5.3.3. Impacts of reforms on Chinese urbanization

The impact of reforms on Chinese urbanization is mainly shown in the form of institutional changes. At macroscopic level, with the reform, China participated in the international division of labor and global economic system, which greatly changed the macro political and economic patterns of Chinese urbanization. After the reform and opening-up, the urbanization model with government playing a leading role was gradually replaced by the model featuring institutional planning and investment guiding (Chen et al., 2004). The coexistence of traditional institutions and market-adjusted system as well as the regional diversity finally resulted in the polarization in Chinese urbanization (Liu, 1998). It is therefore required to deepen the reform on marketization so as to reduce the conflicts caused by a segmented urban and rural dual system; while on the other hand, it is also required to construct a rural social security system and land-use transfer system so as to loosen the control on household registration system and to increase urbanization efficiency while reducing both urbanization risk and transaction cost (Chen et al., 2004).

The successful rural and urban reforms are closely related to the appearance and growth of floating population, while the opening-up policies and the introduction of foreign capital and technologies are closely related to specialized groups with high level of income (Gu and Kesteloot, 1997a, b). To be more specific, the major institutional innovation measures promoting Chinese urbanization include: (1) the innovation on, and adjustments made, to administrative division system (Wang, 2002a, b, c; Zhang et al., 2002; Wei and Yan, 2004); (2) the reform of production system and the establishment of modern enterprise system (Ning, 2000; Qian, 2004); (3) the reforms on household registration system and

population movement system (Zhu, 2006; Liu, 2000; Gu and Kesteloot, 1997a, b); (4) reforms on land systems and housing systems as well as the establishment and improvement of land markets and housing markets (Dong et al., 1993; Du and Xu, 1997; Shi et al., 2000; Zhou et al., 2006; Gong and Xia, 2007; Gu et al., 2003; Zhao, 2001; Zhou and Meng, 1998; Zhang, 2003; Zhou and He, 2006; Shi and Li, 2006; Zhang et al., 1998); (5) reforms on the urban construction investment system, on the financial system and on the taxation system (Lv, 1995; Wang, 1995; Cheng, 1995; Dong and Zeng, 2002; Zhang et al., 1998).

5.4. Processes of Chinese urbanization

5.4.1. Studies on processes of Chinese urbanization

On the basis of urbanization levels, social and economic development status and important historical events, researchers divided Chinese urbanization process into some stages so as to study their respective features. Although they have not reached agreement on the starting time and specific stages of urbanization progress in China, yet most scholars agree that there are two turning points during this process, the one is the adoption of reform and opening-up policies and the other is the 1990s (Zhou, 1986; Ma, 1990a, b; Zhao, 1996; Yeh et al., 2006; Yao et al., 1997; Zhou and Cao, 1999).

Since the People's Republic of China was founded in 1949, urban population has grown rapidly in China, but the urbanization progress fluctuated greatly and the speed was relatively slow (Wang and Han, 1986). During 1964–1980, the urban population growth mainly occurred in medium-sized and small cities, while towns were underdeveloped, but the population in mega-cities had been well under control (Zhou and Yang, 1986). In 1988, the population urbanization entered the early and middle stages of urbanization (Ma, 1990a, b). During nearly two decades after 1978, the big ups and downs of urbanization basically came to an end, China realized sustainable growth and entered the middle and acceleration stage; the regional focus of urbanization changed: the east grew faster than the middle and the west, the south grew faster than the north; the status of small cities in urban system had been improved, the actual population growth in big cities slowed down greatly; some cities started to become internationalized; suburbanization started in some big cities; some urban areas and metropolitan areas started to form; the social polarization within cities aggravated (Zhou and Cao, 1999).

Zhao (1996) believed that the urbanization progress in China after the reform and opening-up was quite normal. Some other scholars disagree. Zhu and Yu (2000) argued that there was no basic condition for an accelerated Chinese urbanization progress, which makes it a dilemma for the country. Lu and Yao (2007) believed that during last decade, the Chinese urbanization progress deviated from the principle of gradual development and the progress was too radical and out of control.

Some scholars focus their studies on certain period or certain areas, Huang (1951) studied the portal cities in China, while He et al. (2002) and Cook (2006, 2007) studied the urbanization progress in Beijing, Gao and Wu (2005)

focused on the city of Shanghai, and Lin and Zuo (2007) studied the urbanization process in Xiamen.

5.4.2. Factors affecting Chinese urbanization processes

Factors affecting the Chinese urbanization process include growth rate, amount, density, and movement of population (Wang and Han, 1986; Zhou and Yang, 1986), social development and economic growth (He et al., 2002), political factors (Li, 2000a, b), institutional and system innovations (Tang, 2000; Liu, 1998; Shang, 1996; Fang, 1999; Yang (2000)), city planning (Gao and Wu, 2005; Lu and Yao, 2007; Wang and Han, 1986; Lin and Zuo, 2007), ecological and cultural elements (Peng and Fang, 2000; Lan and Chen, 2006). Among the most important factors are land system reforms (Yeh et al., 2006), the choice of industrial policies and of leading industries (Geng and Gu, 2007). Factors including the governmental actions of city planning and industrial development policies as well as the original urban pattern and ancient urban structure formed during 3,000 years decide the basic urbanization process in Beijing (He et al., 2002). The basic urban construction framework based on concentric ring roads and radiating road network has profound impact on the expansion model of suburbanization in Shanghai (Gao and Wu, 2005).

5.5. Space of Chinese urbanization

In the early 20th Century, Chinese urban geographers made initial analysis on the distribution of cities in China (Shen, 1937), as well as the location of city, urban structure, and functioning of following cities: Wuxi (Wang, 1935), Chongqing (Chen, 1943), Chengdu (Shen and Sun, 1947), Nanjing (Zhao and Bai, 1950), and Baotou (Luo et al., 1952). In the 1980s, the studies on the urban spatial structure were mainly based on the translated foreign theories to explore the issues of the concept and types of urban spatial structure, the evolution rules of regional structure, the dynamics, the reasonable model, and the features of spatial structure of some cities (Xu and Zhu, 1988). In the 1990s, the main issues of the studies in the field of urban geography include the optimization of spatial structure in mega-cities, the expansion mechanism of central cities and their spatial development trend (Ning and Yan, 1993); other topics includes the evolution rules of spatial structure of big cities, their expansion trend, and the changes of functional land structure (Yu, 1993). To sum up, the studies on the space of Chinese urbanization fall roughly into nine categories as follows (5.5.1 to 5.5.9):

5.5.1. City-region relationship

The relationship between city and region is mutually dependent, for a city comes into being based on regional conditions, while a region becomes flourishing due to the rising of cities. Song (1980) is the first proposing the city-region perspective, which emphasized that the overall city planning and construction must take into consideration both the city and the region, for the urban development is closely related to regional growth with the features multi-leveled and open. According to the theory, the overall city planning shall be based on regional growth in deciding the property, scale of urban development as well as the general spatial pattern of the city. Multi-leveled city-region system

is a fundamental feature of urban economic areas in China. Regional analysis and planning serve as the basis for city planning, while city planning deepens and specifies regional planning. Therefore, it is required to change the traditional way of separating city planning from regional planning so as to achieve breakthrough progress in both theories and methods of city planning. Extensive studies have been made on regional natural conditions, economic conditions, and social conditions serving as the foundation for urban studies and city planning.

During this period of time, some scholars studied the regional economic development and its pattern based on regional investigation (Gu and Zhao, 1995), the application of central place theory in city planning (Yang, 1985), the regional analysis in city planning (Cui, 1982), the division of suburban areas (Wang, 1981), the analysis of factors affecting urban economic areas and the division of economic areas (Chen, 1987; Zhou and Zhang, 2003). The urban studies at regional level also include urban density and the spatial distribution of cities in a region (Gu, 1995) the time-spatial changes of cities and the types of urban land expansion (Zhuo et al., 2003, 2006), the difference, efficiency and features of changes of urban development space in China (Yan and Lin, 2004; Liu et al., 2003; Li et al., 2005), the physical region of cities (Zhou and Shi, 1995; Song et al., 2006), and the re-organization of city space in a region (Lv and Chen, 2006; Shen, 2006). Currently, with the rapid communication technological progress, the economic globalization, the expansion of regional scope for cities, the reinforcing of vertical connection, the city-region perspective picks up more new features. Shen (2006) held that marketization and globalization are remodeling the measurement system and the adjustments made to urbanization progress are made at different levels of central government, local governments, enterprises, and the public.

5.5.2. Urban forms

Since the 1980s, some scholars have explored the urban forms of some cities (Shen, 1986), as well as the rules of combination of different urban forms including concentric, multi-centered, urban agglomeration, and belt-shaped (Yang, 1981). In his *Forms, Structure, Features, and Evolution of Chinese Cities*, Wu (1990) studied the forms and structures of hundreds of Chinese cities from social, economic, cultural, and natural approaches, exploring the mechanism of city form evolution, predicting the development trend, and proposing reasonable development models. Many other scholars studied the evolution of city forms and general model of seaport and river harbor cities, including *Fuqing* (Xu, 2002), *Shijiazhuang* (Xiao et al., 2003), *Longhua* (Yu, Zeng and Jiang, 2001), and *Wuxi* (Yang, 2000), as well as the development of urban spatial structural models in China. During the process of studying spatial growth of mega-cities, some scholars concluded that the urban growth followed the rule of developing from concentric expansion to decentralized form, the expansion along central axis and finally to the belt-shaped growth form (Gu and Chen, 1994).

5.5.3. Urban spatial structure

In terms of the physical spatial structure of a city, some scholars studied the space of leading cities such as Beijing (Gu and Song, 2001), and *Dalian* (Li and Li, 2006; Li et al.,

2005), concluding that the functions of main elements in the formation of city image are different from the three cities.

The studies on urban social spatial structure mainly focus on mega-cities including Beijing (Gu and Kesteloot, 1997a, b; Gu et al., 2003), Shanghai (Li and Wang, 2006), Guangzhou (Xu et al., 1989; Wei et al., 2007; Zhou et al., 2006; Zhou and Yan, 2006). Xu et al. (1989) held that the spatial growth model of social areas in *Guangzhou* is in the shape of a concentric oval extending toward the east and that, during the historical urban development process, the city land planning and housing distribution system contributed the most to the formation of the model. Zhou and Yan (2006) studied the typical blocks in *Guangzhou* and decoded the urban space based on residential commuting behaviors, concluding that the residential commuting behaviors reflect in a large sense the current spatial status and its evolution; while at the same time, they are also related to social space to a certain degree.

The results of studies on urban economic spatial structure include the coexistence of old and new CBDs in *Guangzhou*, the development by districts, the difference of development models and the obvious changes of spatial distribution of financing industry during the transitional period (Lin and Yan, 2006). Yan et al. (2006) analyzed the human factors affecting the changes of land use in the Pearl River Delta Area.

5.5.4. Urban fringe

After the reform and opening-up, mega-cities grew rapidly in China and there is a special region bordering both urban and rural areas, which is known as the urban-rural joining area or the urban fringe. In the mid 1980s, urban geographers started to study urban fringe and published a series of research results (Gu, 1989; Cui and Wu, 1990; Wu, 1990; Lin and Zang, 1991). Gu (1992, 1993) conducted on-site investigation in big cities including Beijing, Shanghai, *Guangzhou*, and *Nanjing* and studied systematically the features of population, society, economy, land use, and regional space of the leading urban fringe in China. Sun (1995) held that the urban-rural fringe in China has a distinct characteristic as the industry-oriented type, which is different from the residential-oriented type in foreign countries. Recently, since the market-oriented economy has initially been established in China, there have been new changes occurred to the leading urban fringe. Zhang and Xu (1997) proposed a new research topic of urban fringe on the basis of the previous results in the field. Su et al. (2005) believed that it is required adopting the concept of smart growth and emphasizing the quality of growth. Recently, some scholars explored such issues on leading urban fringe as the spatial evolution mechanism, the sustainable development, and the growth mechanism.

5.5.5. Semi-urbanization

Semi-urbanization is a transitional stage from countryside to city. The research topics in the field include the definition and types of semi-urbanization (Jia and Liu, 2002), its main characteristics (Liu et al., 2004), the causes of formation and development trend (Liu et al., 2005; Zhu et al., 2006).

Semi-urbanized areas are those with most features of a city yet are not cities according to administrative division, mainly referring to the urban-rural joining areas, towns, counties, and non-agricultural villages with developed industry, and their development is mainly initiated by the investment of non-agricultural industries, especially manufacturing industry, in suburban areas and in villages (Jia and Liu, 2002). These areas feature the high degree of non-agricultural development, the extremely scattered industrial development and land development, the high proportion of non-local population, the villages in urban areas, and the independent rural management system (Liu et al., 2004). The small cities and towns in these areas will undergo a step-by-step agglomeration development from bottom to top (Liu et al., 2005).

5.5.6. Suburbanization

Since the middle 1990s, suburbanization has become an important topic for researchers, who studied a series of issues including the entrance value on suburbanization, the mechanism for the formation of suburbanization, and the control of suburbanization. Suburbanization is a stage of absolute decentralization of a city after its central areas have undergone the stages of absolute centralization, relative centralization, and relative decentralization, with population, industries, and business moving in turns from the downtown areas toward the suburban areas and the population in central areas dropping in absolute amount (Chai, 1995). They applied the research results and methods on suburbanization in western developed countries and took into consideration the distinct characteristics in China, studied Beijing (Zhou, 1996; Zong et al., 2002; Feng and Zhou, 2003), Guangzhou (Xie and Ning, 2003), Shanghai (Li et al., 2003), Shenyang (Zhou and Meng, 1997), Hangzhou (Zhou, 1997), and Dalian (Cao and Chai, 1998), concluding that the population growth in the downtown areas of these megacities slowed down recently, some cities even saw the reduction of population, and the population density also decreased, indicating that suburbanization started in these cities. The suburbanization in China is totally different from that in western countries, with such features as passive suburbanization, residential suburbanization, the expansion in rings, the coexistence of flourishing downtown areas with suburbanization, and the social polarization is not obvious (Gu, 1988; Zong et al., 2002; Feng and Zhou, 2003). The distance from the downtown area has great impact on the process of urban land-use expansion (Li, Fang and Piao, 2003). Some scholars also introduced anti-urbanization phenomenon in the west and made tentative analysis on its impact on the studies of urbanization in China (Yan, 1990).

5.5.7. Urban agglomeration

From urban agglomeration to city group, and then megalopolis, these concepts reflect a process of continuous development in the studies of urbanization space. Urban agglomeration is a regional organization and originates from the interaction among cities located close to each other in an urbanized region; in other words, the appearance and the development of urban agglomeration happen at a stage with relatively high degree of urban development. In the

late 1980s, urban concentration areas started to appear in more developed regions in China. Urban geographers studied these areas on the basis of foreign research results and the distinct features and development trend of developed urban areas in China (Sun, 1995). Li (1989) is the first focusing on the study of urban agglomeration. He introduced Gottman's theories on urban agglomeration and explored the formation conditions, historical driving force, current features, and future development of city groups in the middle and lower reaches along the Yangtze River. Li (1989) studied the features and formation conditions of urban agglomeration, Xu (1992) analyzed the features and development trend of cities in the Yangtze River Delta Area and in the Pearl River Delta Area; other scholars also studied the city agglomeration in Middle China (Wang et al., 2007). Some scholars argued that the stability of spatial structure of urban agglomeration in China is relatively low (Song et al., 2006).

5.5.8. Metropolitan areas and megalopolis

Metropolitan areas and megalopolis are higher forms of urban agglomeration, and the studies are sponsored by the National Natural Science Foundation of China. Hu et al. (2000) published *Studies on Spatial Centralization and Decentralization of urban Agglomeration in Coastal Areas in China*. Zhou defined the terms of metropolitan area and megalopolis as well as universal standards for the convenience of future studies. In the compilation of *China urban development strategy at the Turn of the Century* organized by the State Ministry of Construction, Gu (1997) studied the policies on the development of metropolitan areas and megalopolis. With the deepening of the research, some scholars believed that metropolitan areas is a big population core and its combination with the areas located close to it with the tendency of integration in both social and economic fields; megalopolis is urban agglomeration composed of several metropolitan areas, for example, the Pearl River Delta Area is composed of six metropolitan areas, and the Yangtze River Delta Area is composed of 13 metropolitan areas. Recently, the researches on metropolitan areas and megalopolis focus on the Yangtze River Delta Area (Huang and Zhu, 2005; Xie et al., 2007), the Pearl River Delta Area, and the main issues include the formation of metropolitan areas and megalopolis, the development rules, the features of distribution, their forms, dynamic process, and spatial structural characteristics.

Ning (1998), Yan (1997), and Li et al., 1996, 1998 started from defining metropolitan areas and analyzed the features of the metropolitan areas in the Yangtze River Delta Area and the Pearl River Delta Area, exploring the main formation elements and mechanism. He et al. (2003) simulated and predicted the metropolitan areas development evaluation process, while Huang and Zhu (2005), Chen and Lv, 2007 studied the scientific planning on urban areas. Xie et al., 2007 concluded that the spatial expansion of urban groups in the Yangtze River Delta Area speeds up obviously. To sum up, the general direction for Chinese urbanization progress is metropolitan areas (Zong, 2001), while metropolitan areas have become the basic cells of modern regional development and the mainstream organization form of urbanization (Wang, 2002a, b, c).

5.5.9. Urban system

In terms of urban system theories, Gu (1987) firstly divided organization structure of the urban system into four aspects of regional spatial structure, urban rank-size, urban types and regional functional structure, and urban network system. Theories and methods of urban system planning were explored in China (Sun, 1984; Song and Gu (1988); Wu, 1989; Wang, 1988, 1991; Wang, 1986; Chen and Liu, 1990; Ding, 1989). Yang (1987) studied the theories and made experimental verification on the definition of urban system, and the corresponding model of rank-size of urban system. The subsequent studies covered extensive fields of defining urban system, constructing theoretical framework, analyzing current structure of urban systems at different levels (province, city, and town), deciding on category standards, and exploring development trend (Gu and Zhang, 1997). Yu (1989) also analyzed the economic relationship among different cities and between cities and regions, as well as the degree of connection of information flows so as to clarify the relations among different urban areas in a region. Some scholars focused on the current features of urban system and its formation mechanism as well as the impact of information industry on urban system (Gu, 1997). Other scholars introduced the theories of fractal and fractal dimension to study the spatial structure of urban system with both quantitative and qualitative methods (Chen, 1998a, b, 2004; Zhu and Wu, 2005).

As for the experimental researches on regional urban system, in the last two decades Chinese urban geographers have studied the urban systems in administrative regions, drainage areas, and economic areas at different levels in China. During early stage, some geographical institutes of the Chinese Academy of Sciences and departments of geography in some universities undertook the studies of urban systems in middle and south Liaoning Province, Beijing-Tianjin-Tangshan, middle Hunan Province, and Changchun City. First researchers engaging in the studies of urban system in China include Song Jiatai and Gu Chaolin from Nanjing University, Zhou Yixing and Yang Wuyang from Peking University, and Xu Xueqiang from Sun Yat-sen University. In his *Urban System in China*, Gu (1992) systematically studied the origin and development of urban system in China, analyzing such issues as self-organizing structure, regional spatial structure, urban rank-size, urban type and functional structure and urban network system of Chinese urban system, as well as the conditions for the development of urban system, the impact of urbanization level, urban population growth, and national urban system development. Later on, other scholars also studied the features of urban system in east coastal areas in China structure and arrangement of the urban system (Liu, 1998), the urban system along the Yangtze River (Ling and Xu, 2003), the foundation for planning urban system in the Yangtze River Delta Area (Gu, 1992), the planning of urban systems in Henan, Gansu, Hunan, Guangxi, Sichuan and other provinces in middle and west China, as well as the rank-size and development trend (Wang and Yuan, 1992). The studies of regional urban system move from developed coastal areas and river areas to inland areas.

As for the practice of urban system planning, in the 1980s, Song and Gu (1988) proposed a theoretical framework of urban system planning: three structures and one network on the

basis of foreign experiences and actual conditions in China, which has been extensively accepted and applied by city planning authorities in China. Urban geographers started to undertake the task of compiling urban system planning in many provinces and cities at different levels. Nanjing University held urban system planning workshops for the State Ministry of Construction in the 1980s and 1990s, producing a large amount of professional talents in the field. The City Planning Division of the State Ministry of Construction issued *Measures for Compiling Urban System Planning* based on previous experience, regulating the compilation procedures and standards for urban system planning at different levels of province, city, and other special zones, which have been latterly adopted in the *Law on City Planning*. In recent years, with economic globalization and domestic economic marketization, geographers and planner started to explore new theories and methods on urban system planning (Gu and Zhang, 1997) so as to study the evolution of urban system, its reasonable model, structural adjustment and scientific prediction instead of being satisfied with the general analysis on “three structures and one network”. Ouyang emphasized integral harmony and sustainable development in the planning of urban agglomeration in the Pearl River Delta Area (Fang et al., 1997), while Ding paid attention to the relationship between regional social development and economic growth and urban system during the urban system planning in Zhejiang Province so as to explore an urban system planning contributing more to the sustainable regional development.

5.6. Rural urbanization

Since 1978, the economic reform centering on household responsibility contract system has been gradually launched in extensive rural areas in China, resulting in a large amount of agriculture surplus laborers who gradually moved into the secondary and the tertiary industries. In the middle and late 1980s, township enterprises were flourishing and became the leading factor promoting rural urbanization. During this period of time, the studies on rural urbanization made great progress in both theories and practice (Zhou, 1997).

Scholars hold that rural urbanization is too important to be ignored (Gao, 1990; Li, 1995) and they explored extensively different aspects including its process (Sun and Lin, 1988; Zhang and Gu, 2002), paths (Luo, 2004; Cao, 2001), models (Chen, 2000a, b, c, d), mechanisms (Chen, 2000a, b, c, d; Li and Sun, 2006; Li and Xie, 1997), institutions (Xie, 2005; Xiong and Zeng, 1999), problems and solutions (Sun and Lin, 2000; Shang, 1994), policy directions (Shi, 2002), urban and rural integration (Xiu et al., 2004; Shi, 2003a, b; Wei, 1997; Zou and Liu, 1997; Zhen, 1998), and future studies (Xue and Zheng, 2001).

Although the opinions differ in terms of spatial models of multi-centered decentralized type (Shui and Wu, 1984) and centralized type (Sui et al., 2001; Luo, 2004) as well in urbanization paths, yet most scholars agree that with a dual structure, rural urbanization will focus on the development of small cities and towns (Chen, 2000a, b, c, d; Yi, 2000; Zeng, 2000; Zhang et al., 2000; Chen, 2001). As for the development of small cities and towns, there are also different models focusing on industries, transportation, market, tourism, and villages (Sui, Cao and Sun, 2001;

Luo, 2004), while to construct specialized towns is a special way of developing small cities and towns (Shi, 2003b). The initial driving force for rural urbanization is the strong will of farmers (An et al., 2002), while the fundamental driving factor and important support is the rising of township enterprises (Sui, Cao and Sun, 2001). Its dynamic mechanism includes the conflicts between rural labor and farming land resource, the development of rural industries and markets, the decentralization of large and medium-sized cities, the governmental policies and administrative management (Li and Xie, 1997; Cao, 2001). There are different models of Sunan, Wenzhou, and Pearl River Delta Area Model (Sun and Lin, 1988). With the impact of both internal and external factors (Chen, 2000a, b, c, d), along with the elapse of time, the features and mechanisms of different models also changed (Zhang and Gu, 2002). Recently, some scholars proposed the assumptions on the dynamic system for rural urbanization (Li and Sun, 2006).

Due to economic growth models and land management system (Sun and Lin, 2000; Chen, 2002a, b), rural urbanization resulted in a series of consequences including the sharp reduction of farming land, the deterioration of environment, and the low efficiency of small cities and towns (Wang, 1999; Chen and Wang, 1999), the interests of numerous farmers losing farming land have been greatly damaged due to their losing the status of a main body during the progress of urbanization (Dong, 2005). Accordingly, we shall be extremely cautious about rural urbanization (Chen and Wang, 1999), and the inevitable trend is the acquisition (Song, 1997), the professional management reform at the level of village (Yang and Zuo, 1996), the effective control and supervision (Li and Xie, 1997), and the institutional innovation to realize a harmonious urban and rural development (Zhang et al., 2006). Therefore, the more appropriate paths are intensive urbanization with distinct characteristics and content (Wang, 1999; Chen and Wang, 1999; Shi, 2002), while village planning and the planning of new residential communities in towns (Cao, 2001) and the overall city planning at the level of county (Wu et al., 2005) will play an important role during the process.

Some scholars proposed that urban and rural integration is an inevitable trend of social development (Zou and Liu, 1997; Shi, 2003b), and the specific content of integration includes urban and rural politics, economy, ecology, population, culture, and spatial integration (Zou and Liu, 1997; Zhen, 1998); urbanization and rural industrialization serve as its dynamic mechanism (Zhen, 1998; Xiong and Zeng, 1999), an integrated urban and rural market serves as its core. The urban and rural integration shall be people-centered (Zhen, 1998) and supported by city planning (Zou and Liu, 1997; Wei, 1997; Zhen, 1998). As for actual practice, government authorities and the academic community jointly launched experiments on institutional reforms including “promoting counties with cities”, “upgrading counties to cities”, and the construction of small cities and towns, proposing through comparing and summarizing the results, the model in the Pearl River Delta Area featuring “promoting rural areas with urban growth”, the model in Shanghai featuring an integrated urban and rural planning, the model in Beijing featuring “coordinating industries and agriculture and integrating urban and rural areas”, and the model of urban and rural interaction (Shi, 2003a). Some scholars studied the urban and rural integration in Shanghai (Shi, 2003b) and in Northeast China (Xiu et al., 2004).

There have always been debates on urban and rural integration. Zhong (1994) argued that the only goal of this was to create a balanced urban and rural development at a low level, which is a typical model of planned economic development and a model of local protection. While Wei (1997) believed that urban and rural integration is a special model of urbanization and Zhen (1998) further argued that this didn't mean an even urban and rural development on an equal basis and this is an inevitable choice of urban development pattern in China. Yuan et al. (2005) believe that China is still during a period of rapid urbanization promoted by traditional industries, therefore an early schedule of urban and rural integration isn't good for a sustainable economic and social growth.

5.7. Comparative studies of urbanization

The studies of urbanization have always been important for urban geographers (Gu and Xu, 1999; Shen and Cui, 1990; Yan, 1994; Shi, 2001). Since the 1990s, domestic academic community started to recognize the distinct characteristics of Chinese urbanization and managed to join the international academic community in the studies of urbanization, which became the mainstream of Chinese urbanization studies. On the one hand, they explored the theories on urbanization by introducing the western research results on urbanization in such fields of modern urban sociology and urban geography, including the theories on urbanization by Manuel (2006a) that politics, power, real estate interests, community motivation, and social conflicts are key elements in understanding the factors promoting urbanization (Manuel, 2006b), as well as the commentary introduction of the new progress in western urban geography (Yan et al., 1994). Gu (2003) started from the analysis on the dynamic mechanism of urbanization in early stage and studied the international urbanization, covering an extensive field of the process of urbanization under the background of industrialization and six theoretical frameworks of research on urbanization in the developing countries, that is, the classical and traditional approach, the top-to-bottom development model, the historical approach, the radical politics-economics approach, the bottom-to-top development model, and post-modernist approach. He analyzed the urbanization progress in the world with the background of globalization, managing to construct an international exchange platform for the studies of Chinese urbanization and concluding that the Chinese urbanization is different from those in other countries, so scholars shall construct the new basic theoretical framework for the studies in this field.

On the other hand, the scholars also explored the actual Chinese urbanization by applying foreign theories and experience. The issues they studied include the features of urbanization in the world (Yang, 1990; Wang and Gu, 2002), the problems (Wang and Gu, 2002), the comparison of different urbanization levels (Li, 1986), the anti-urbanization (Yan, 1990; Huang, 1997a, b), and the development trend (Peter and Ji, 1992; Wu, 1995; Shen, 2000). At the same time, they also focus on individual countries, such as the process, trend and features of urbanization in US (Gormansinsky, 1986; Zhao, 1993; Tang, 1994; Chen, 2003a, b, c, d; Xu and Cai, 2006; Song and Li, 2006; Liu et al., 2007; Wang, 2007), the city forms, development process and trend in Japan (Wu, 1992; Wang and Peng, 2004;

Gu et al., 2007), the urbanization in Canada (Han and Chi, 1995), the urbanization and urban and rural integration in France (Huang, 1997a, b), the urbanization in Singapore (Li, 1983), the unbalanced urbanization model in South Korea (Jian and Liu, 1997), and the urbanization path in Rangoon, Burma (Fei, 1999). The future urbanization progress in China can learn some lessons from Japan, whose capital city and the world city Tokyo grows on a continuous basis (the rapid centralization of tertiary industry in metropolis, the construction of coastal sub-centers, the construction of Tsukuba Express, and the construction of new portal city of Yokohama), the stagnancy in development of regional cities, and the declining of local cities (Gu et al., 2007), from the development of medium-sized cities in the US (Zhao, 1993), from suburbanization and “re-urbanization” (Tang, 1994), from the new trend of multi-centered of center-free metropolitan areas and the agglomeration of urban systems (Xu and Cai, 2006), and from the urban and rural integration in France (Huang, 1997a, b). Some scholars proposed the concept of a proportional urbanization (Yao and Kiyonori, 2000), emphasizing city planning and the construction of transport and communication network (Liu et al., 2007), the construction of information cities (Song and Li, 2006) and multi-centered metropolitan areas (Chen, 2003a, c, b, d), the internalization of Chinese cities (Li, 1994) and the possible urbanization paths (Jian and Liu, 1997). Some scholars suggested that the Chinese urbanization should learn lessons from the experience of foreign countries and manage to avoid the urban problems occurred during the urbanization progress in Europe, Japan, the US, Latin America, and Africa (Qiu, 2004ab). Urban regeneration is now needed in some Chinese cities, for example, and lessons can be learned from the experience of the UK and other countries in this process (Cook, et al., 2008).

5.8. Impacts of globalization on Chinese urbanization

Domestic scholars deepened their studies on globalization and Chinese urbanization step by step. At the early stage, only a few scholars recognized the important impact of international political and economic strategic patterns on Chinese urbanization even during the Cold War period. They took foreign investment as an important external variable or driving factor and studied its impact on the regional urbanization (mainly the Pearl River Delta Area) and possible consequences of urbanization. With the introduction of theories on globalization and on international urbanization, domestic scholars started to include China's urban system once again in the world urban system so as to explore the Chinese urbanization from a broader world perspective in politics, economy, cultural interaction, and especially the free flow of products, labor, capital, and technologies.

Globalization affects the process of Chinese urbanization (Zhao, 1999; Wu and Gu, 2005; Shi and Lin, 2002) and has profound impact on the development and changes of urban spatial structure from urban-rural dual spatial structure to integrated multi-centered network structure (Lv et al., 2006). The largescale urban projects reflect the general process of globalization affecting urban and regional development and become a new human phenomenon and

landscape (Zhao, 2006a, b, c, d). During the era of globalization, the new urban network is forming (Shi and Lin, 2002), making it of vital importance to participate in the process of globalization by constructing international metropolises (Gu and Xu, 1999; Gu et al., 2005; Cook, 2006). China should re-organize a spatial structure of national urban system which center on hub cities in accordance with the trend of globalization, should construct corresponding supporting system matching globalization and re-construct national urban systems (Gu et al., 2005). Some scholars explored the strategy for urban development and proposed new urban development strategies in response to knowledge economy and globalization (Zhao, 1999; Qiu, 2003a, 2003bc, 2003d). Therefore, domestic researchers shall start from globalization and spatial studies to discuss such issues as the world cities, the urbanization, the city-region structure, the multi-national spatial connection, transformation of urban spatial structure, the imbalance in regional development, and the social polarization (Jian, 2004).

5.9. Regional urbanization

The studies on regional urbanization are important for the study on Chinese urbanization. In terms of the regions scholars study, most are the provinces and cities in the east China and only a few scholars studied the middle and the west China. While in East China, most studies are on the Pearl River Delta Area and the Yangtze River Delta Area, and some scholars made comparative studies on regional urbanization (Yi and Su, 2004).

5.9.1. Urbanization in the Pearl River Delta Area

The studies of urbanization in the Pearl River Delta Area focus on such issues as the dynamic mechanism (Zhong and Yuan, 1993; Chen and Shen, 2004), the development models (Shen et al., 2006; Li, 2002), the evolution of spatial structure (Hu et al., 2003; Liu and Liang, 2005; Yang and Li, 2007), the multi-regional urbanization and regional integration (Lin, 1997; Sit and Yang, 1997a, b, c; Li, 1997; Yan and Leng, 1997), the development and semi-urbanization of urban fringe (Liu and Liang, 2005; Zheng et al., 2003), the development strategy (Tang and Tang, 2002), and the sustainable development (Xu and Zhang, 2001; Liu, 2001). In view of research focus, it changed from the previous topics of the external variants, the bottom-to-top model, the rural industrialization, and the hidden urbanization to the dual urbanization and the metropolis.

The moving of manufacturing industry from Hong Kong to Guangzhou did not show the tendency of spatial concentration in downtown areas of metropolis, while the input of capital and the introduction of manufacturing equipments promoted the rural industrialization in the metropolitan area, changing the culture, behavior and lifestyle of local people (Lin, 1997). Shenzhen City developed into a modern city with the capital flow from Hong Kong, while the expansion of Hong Kong into Shenzhen and the economic inland areas in the Pearl River Delta Area helped to promote its industrial upgrading and to consolidate its status as the international trade, financing, and navigation center; the multi-regional economic growth was regulated by the market, spontaneous, and non-governmental (Sit and Yang, 1997a, b, c). The urban form of Hong Kong is the

reinforcing of its functions as business center, the expansion of business central area, the restructuring of original industrial area, and the re-division of entire urban social geography (Li, 1997). The existing problems preventing Hong Kong and Shenzhen from achieving a harmonious development include the challenges of external factors, the lack of communications and coordination between two governments, the low level of economic cooperation, and the disconnection of infrastructure (Yan and Leng, 1997).

During 1980s-1990s, the urbanization in the Pearl River Delta Area tended to decentralize and to concentrate in newly special economic zones before the appearing of a new tendency that, with the guidance of the state authorities, the urbanization concentrated in leading central cities once again. The complicated realities of “dual urbanization” imposed great challenges on urbanization theories constructed based on cities or small cities and towns (Shen et al., 2006). The export-oriented economic growth, the urban agglomeration economy, the contributions made by floating population, the administrative support, and the expansion of large and medium-sized cities promoted the urbanization progress (Hu et al., 2003; Chen and Shen, 2004), together with the growth of urban construction in core areas and the transport-based growth (Hu et al., 2003). Other scholars studied the semi-urbanization in Dongguan (Zheng et al., 2003), the increasingly great impact of the urbanization in central towns on the urban spatial structure in the Pearl River Delta Area, and the changes of models from loose structure to gradually decentralized structure of “point-axis” model and “point-axis-agglomeration area” (Yang and Li, 2007).

5.9.2. Urbanization in the Yangtze River Delta Area

The recent studies on urbanization in the Yangtze River Delta Area focus on the following issues: the urban land expansion in the Yangtze River Delta Area (Li et al., 2007), the cooperation among cities (Luo and Shen, 2007), the mega-city regions (Zhang, 2006), development trend and strategy of the urbanization (Marton, 1996; Yao and Chen, 1998; Duan, 2002); the features of urbanization in Jiangsu Province (Tang and Yao, 1999a), the development trend (Tang and Yao, 1999b), the regional difference and development models (Wang and Yu, 2003, 2004; Zhu et al., 2006), the dynamic mechanism (Wang, 2005), the environment effect (Liu, 1998); transition of urbanization in Zhejiang Province (Yang, 2000; Ye et al., 2005; Li and Wang, 2002), and the path (Yang, 2000; Dai, 2002; Wang, 2002a, b, c; Chen, 2003a, c, b, d).

The shortcomings of the Sunan Model become increasingly obvious and innovations are required on institutions, management, and organization (Tang and Yao, 1999b; Yao et al., 2001), and to reinforce the agglomeration effect of industrialized space (Zhang, 1996; Yang, 2000) is an urgent task. The leading factors promoting rapid urbanization progress include the promotion of industrialization, the export-oriented economy, the contributions of the metropolitan economy and non-governmental economy, and the administrative effect (Wang, 2005; Yang, 2000). Applicable policies decided the direction of economic growth, while the economic growth has always been the leading factor affecting the expansion of urban land-use (Ma et al., 2004). In other words, the general conclusion is that the

megapolis in Asia must be constructed on the understanding of local economic reforms (Marton, 1996).

During 1979-2005, the urban area in the Yangtze River Delta Area has grown rapidly, both fractal dimension and stability of its spatial structure fluctuated and the spatial development tracks of urban growth include “one core and two belts”, “two cores and three belts”, “four cores and four belts”, and “five cores and five belts” (Li et al., 2007), the leading feature and the basic development trend of urban spatial evolution is urban and rural integration (Yao and Chen, 1998). The urbanization in the Yangtze River Delta Area is to promote the development of mega-cities, to improve the central functions of large cities, to actively develop medium-sized and small cities, and to reinforce the construction of leading central towns (Cheng, 2000; Wang and Yu, 2003, 2004), so as to form multi-centered network metropolitan area (Zhang, 2006).

The horizontal urbanization model in the border of provinces' administrative regions has such features of being marginal, inconsistent, competitive and cooperative. But being affected by the “shear effect” in urban fringes, competition usually looms larger than cooperation and there will generally be cut-throat competition (Zhu et al., 2006). According to the researches made on the Yangtze River Delta Area, the effective cooperation among different cities is decided by following factors: the mechanism, process, quality and fields of cooperation, the choice of partners, the function of share-taking parties in the formation of partnership (Luo and Shen, 2007).

5.9.3. Urbanization in other areas in East China

The content of studies made on the urbanization in other areas in East China includes: the comprehensive measurement on the urbanization level in Shandong Province (Shi, 1991; Fang et al., 2006), the framework and internal driving force on rural urbanization the relationship between the development of infrastructure and service facilities and urbanization (Shi, 1991; Zhou and Wang, 2006; Zhu et al., 2006), the studies of semi-urbanization (Zhu et al., 2006), the urbanization trend in Beijing and the countermeasures to be adopted in suburban areas (Chen, 1996a, b), the improvement and development model for urban agglomeration in the middle Liaoning Province in northeast China (Dong and Liu, 1991), the relationship between urbanization and industrial changes in northeast China (Yang et al., 2004), the integration and control mechanism of urban agglomeration in northeast China (Wang and Wu, 2004), and the impact of urbanization in east coastal areas on environment (Pei, 1999).

5.9.4. Urbanization in Middle China

The studies of urbanization in the middle China focus on Anhui Province (Yu, 1988), Shanxi Province (Zhang and Guo, 2000; An, 2000), Hubei Province (Li et al., 2003), and Jiangxi Province (Ye et al., 2003). In general, since most cities in the area are in the initial stage of urbanization, for example, as for the Taiyuan metropolis (Guo and Bai, 2000), it is still weak in export-oriented economy, public investment and consumption capacity (Li et al., 2003), therefore, most study topics focus on traditional fields of urbanization and the analysis on affecting factors.

5.9.5. Urbanization in West China

After the reform and opening-up, few scholars have studied the urbanization in west China but after the implementation of the *Great West Development Strategy*, more and more studies have been made on extensive issues of the choice of urbanization path (Li and Liu, 2001), the urbanization development strategy (Guan and Yao, 2002), the urbanization model (Wang and Hou, 2002), and the issues of development (Guan and Yao, 2002), as well as the urbanization process and features in certain provinces or cities (Zhang et al., 2000; Hou et al., 2000; Liu, 2000). The institutional factors play a decisive role during the urbanization progress in the west China (Gao and Zeng, 2006), transport plays an extremely important role in the urban development and urban groups (Wang et al., 2004), while the construction of development zones has become one of the factors promoting the evolution of urban economic and social spatial polarization (Wang, 2006).

To sum up, in the last three decades, domestic scholars have obtained great achievements in the studies of Chinese urbanization, and there are also many problems too. Firstly, the mainstream research focus of the domestic academic community usually lagged behind the complicated and vital urbanization realities, behind the actual demand of the state or local governments, and even behind the promulgation of relevant regulations and policies. Secondly, most research results are summaries of existing theories or practices instead of making independent deduction and analysis; most scholars mainly engaged in applied research to serve as advisors for the government and planners instead of making theoretical research. Thirdly, in order to communicate with the international academic community, many international cooperation and exchange activities and events have been organized, yet in terms of actual effect, the emphasis was still put on the introduction of foreign theories and practices on urbanization. Fourthly, institutions, researchers and research activities in the field have close relationship with governments at different levels, which will inevitably affect the approach, perspective, point of view, and conclusion of final research results. Few non-mainstream research results on urbanization can be found in authoritative and mainstream academic journals.

6. Major academic activities and important events on Chinese urbanization

6.1. The Central Committee of the CPC and the State Council

6.1.1. Forecast and planning of designated cities

In order to promote Chinese urbanization, to make the distribution of cities and towns more scientific and reasonable, and to promote harmonious national economic growth and social stability, the General Office of State Council transmitted on 16 November 1990 *Report on Forecast and Planning of designated cities in China* issued by the State Ministry of Civil Affairs.⁷

⁷(1990) No. 65 Document issued by General Office of State Council.

6.1.2. Report on the development of human settlement

The Chinese government submitted to the United Nations in 1994 the *Report on the Development of Human Settlement in the People's Republic of China* and confirmed the goal of achieving 45% urbanization rate by 2010. According to the report, urbanization is an inevitable process for the national economic growth and the construction of modernity, therefore the active urbanization policies are important to promote domestic demand and economic growth, to optimize economic and social structure, and to promote national modernization.

6.1.3. Changing from traditional agricultural country to industrial country

In September 1997, Jiang Zemin delivered his *Report at the 15th National Congress of the Communist Party of China*,⁸ proposing the concept of “the primary stage of socialism” and pointing out that China should gradually change the current status of underdevelopment to basically realize socialist modernization, changing from an agricultural country with a majority of rural population and depending highly on manual labor to an industrialized country with a majority of non-agricultural population and focusing on modern agriculture and modern service industries, progressing from the stage focusing on natural and semi-natural economies to a historical stage with relatively high degree of economic marketization.

6.1.4. Sticking to the urbanization path with distinct characteristics

In November 2002, in *Report Delivered to the 16th Party Congress*, Jiang Zemin proposed that to achieve a flourishing rural economy, to accelerate urbanization progress, and to realize a harmonious urban and rural economic and social growth, these are important tasks for constructing a moderately prosperous society in all aspects. It is an inevitable trend of industrialization and modernization that surplus agricultural labor will move to non-agricultural industries and urban areas. We should gradually improve the urbanization level, stick to the harmonious development of large cities, medium-sized cities, small cities and towns as well as to the urbanization path with Chinese distinct characteristics. The development of small cities shall be based on existing towns and organic towns with conditions through scientific planning and reasonable arrangement by integrating the development of township enterprises and rural service sectors. The institutional and policy obstacles preventing urbanization progress shall be removed so as to achieve a reasonable and orderly migration of rural labors to urban areas.

6.1.5. Speeding up the urbanization progress

The Third Plenary Session of the 16th CPC Central Committee held in Beijing in October 2003 proposed to greatly develop the country economy, to promote urbanization progress, and to gradually unify urban and rural labor

⁸On 12 September 1997, Jiang Zemin delivered report at the 15th National Congress of the Communist Party of China on 12 September 1997, Hold High the Great Banner of Deng Xiaoping Theory for an All-round Advancement of the Cause of Building Socialism With Chinese Characteristics Into the 21st Century.

markets.⁹ The session adopted *Decision of the Central Committee of the Communist Party of China on Some Issues Concerning the Improvement of the Socialist Market Economy*, stressing that the market shall play a fundamental role in resource allocation so as to provide institutional guarantee for the construction of a moderately prosperous society in all the fields by integrating the urban and rural development, the regional development, the economic growth and social development, the harmoniousness of both human society and nature, and the domestic development and opening-up. It is also required to construct a system so as to gradually change current dual urban and rural economic structure, to create a system promoting a harmonious regional economic growth, to build a unified and orderly modern market system, sticking to the principle of making overall plans and taking all factors into consideration, centering on people, building a complete, harmonious and sustainable development concept, promoting economic and social development.

6.1.6. The 25th CPP Bureau Collective Learning Session

The 25th collective learning session of the Central Party Political Bureau was held on the afternoon of 29 September 2005, focusing on the topics of foreign urbanization models and the urbanization paths with distinct Chinese characteristics. Professor *Tang Zilai* from Tongji University and Professor *Zhou Yixing* from Peking University were lecturers. *Hu Jintao* chaired the learning session and made an important speech. He emphasized that China should stick to the urbanization path with distinct Chinese characteristics and follow the principles of gradual progress, saving land resources, intensive development and reasonable planning so as to achieve urbanization which was energy-conserving, environment-friendly, economically efficient, and socially harmonious. Chinese urbanization is an inevitable trend of economic growth and social development and an important indicator of both industrialization and modernization. China is at a key point for urbanization progress and we should stick to the harmonious development of large cities, medium-sized cities, small cities and towns so as to gradually improve urbanization level, which has great significance on improving domestic demand, promoting national economic growth, optimizing urban and rural economic structure, promoting a positive cycle of national economy and harmonious social development. China should stick to an integrated urban and rural development so as to continuously promote urbanization on the basis of economic and social growth, to strengthen urban and rural relationship, to realize optimized allocation of land, labor, capital and other main production elements in a broader scope, to move surplus rural labors in an orderly way, to promote agriculture with industries and countryside with cities in order to finally achieve common development and prosperity in urban and rural areas. China should improve the urbanization level, and reinforce the overall strength of large cities and city agglomeration so as to scientifically allocate various resources and main production elements, to make cities a leading factor promoting social development

and economic growth, to improve our economic development level and overall competitiveness.

Hu also pointed out that China is populous, weak in resources, and imbalanced in development, therefore the promotion of urbanization faces a lot of problems and conflicts including the large population, the shortage of resources, the vulnerable environment, and the big diversity in regional development. This means that China must carry out the scientific development outlook and stick to the urbanization path with distinct Chinese characteristics: (1) Stick to the basic state policies of protecting environment and resources, to achieve a harmonious relationship between urbanization progress and population, resources, and environment, to intensively use land and water resources, to protect ecological environment and historical and cultural environment, to stick to the sustainable and intensive urbanization path; (2) Take into comprehensive consideration economic and social development level, market conditions, and social bearing capacity, to bring into full play of the important function of market in promoting urbanization, to realize the effective allocation of various types of resources during the process of urbanization through market, to gather all types of necessary production elements in urban areas, to strengthen the macro-control of government, to reinforce and improve the management, guidance, and regulation of government on urbanization; (3) Stick to diverse urbanization paths, to promote a harmonious development of cities and towns at different levels, to create a reasonable urban system, to improve the comprehensive bearing capacity of cities and towns, to bring into full play of the functions of cities and towns at different levels in certain region; (4) Reasonably decide on the goals of urbanization development in different places according to their respective economic and social development levels, regional features, resource advantages, and environment, to set up corresponding urbanization strategy and relevant policies, to strengthen economic connection among different cities as well as work division and cooperation, to realize supplementary and common development of different cities and regions; (5) Study and set up policies, measures, systems, and mechanism in accordance with the actual conditions and the rules of socialist market-oriented economy by deepening reforms, and to create a favorable environment for urbanization progress.

6.1.7. Promoting a healthy urbanization progress

The Fifth Plenary Session of the 16th CPC Central Committee was held in Beijing in October 2005¹⁰ listened to the discussed the work report delivered by *Hu Jintao* with the Commission of the Communist Party Political Bureau, and adopted *Suggestions of CPC Central Committee on Setting Up the 11th Five-Year-Plan for National Economic and Social Development*. The plenary session analyzed the international and domestic situations facing economic and social growth in China, emphasizing that, during the construction of a moderately prosperous society in all aspects, China should firmly stick to the outlook of scientific development, center on people, change the old outlook of development,

⁹The Third Plenary Session of the 16th CPC Central Committee was held in Beijing during 11-14 October 2003.

¹⁰The Fifth Plenary Session of the 16th CPC Central Committee was held in Beijing during 8-11 October 2005.

innovate development model, improve development quality, so as to lead the economic and social development onto the track of sustainable development.

During the 11th Five-Year-Plan period, China should stick to the principles of realizing a harmonious development of large, medium-sized, small cities and towns, land resource conservancy, intensive development, and reasonable planning, so as to promote a healthy urbanization progress. China should construct and improve corresponding systems on taxation, land acquisition, administrative management, and public services in the support of a healthy urbanization progress, should improve the management on household registration and floating population. Furthermore, China should emphasize regional planning, city planning, and land use planning, to improve human settlement environment, to protect local characteristics, and to improve urban management level.

6.1.8. Further reinforcing the urbanization path with distinct characteristics

On the Seventeenth National Congress of the Communist Party of China held in October 2007, Hu Jintao delivered a report “Hold High the Great Banner of Socialism with Chinese Characteristics and Strive for New Victories in Building a Moderately Prosperous Society in all Respect”, pointing out that it is necessary to understand fully the new situation and tasks in China’s advance toward an industrialized, information-based, urbanized, market-oriented and internationalized country, have a good grasp of the new issues and problems China face in development, follow more conscientiously the path of scientific development, and strive to open up a broader vista for developing socialism with Chinese characteristics. The Report emphasized that in order to take a path of urbanization with Chinese characteristics, China will promote balanced development of large, medium-sized and small cities and towns on the principle of balancing urban and rural development, ensuring rational distribution of cities, saving land, providing a full range of functions and getting larger cities to help smaller ones.

Focusing on increasing the overall carrying capacity of cities, China will form urban clusters with mega-cities as the core so that they can boost development in other areas and become new poles of economic growth. China should also balance urban and rural development and build a new socialist countryside, should take a path of agricultural modernization with Chinese characteristics, set up a permanent mechanism of industry promoting agriculture and urban areas helping rural areas, and form a new pattern that integrates economic and social development in urban and rural areas. China will develop rural enterprises, expand county economies, and transfer rural labor out of farming through various channels. China will accelerate the establishment of a social security system covering both urban and rural residents and guarantee their basic living conditions. China will promote reform of basic old-age insurance systems in enterprises, Party and government organs and public institutions and explore ways to set up an old-age insurance system in rural areas. China will improve the low-rent housing system and speed up resolution of the housing difficulties of low-income families in urban areas.

6.2. The National Development and Reform Commission

6.2.1. Developing small cities and towns by actively encouraging an orderly migration of surplus rural labors

On 5 March 1996, the 4th Plenary Session of the 8th National People’s Congress Council adopted the Ninth-Five-Year Plan of the People’s Republic of China on National Economy and Social Development and Outlines of Objectives in Perspective of the Year 2010 and started to include the content of urbanization in national economic and social development plans: in order to achieve a favorable investment environment and to improve economic efficiency, the development of rural enterprises will be relatively concentrated and will be integrated with the construction of small cities and towns together with the active guidance on transferring surplus rural labors in an orderly way.

6.2.2. Carrying out urbanization strategy to realize a harmonious urban and rural development

The 10th Five-Year-Plan listed urbanization as the key construction item, during the compilation of the 10th Five-Year-Plan, the State Ministry of Construction made previous studies on the urbanization development trend and solutions with the market-oriented economic conditions, proposing the basic outlooks for urbanization and urban development planning. The 4th Plenary Session of the 9th National People’s Congress Council held on 15 March 2001 adopted the *Tenth-Five-Year Plan of the People’s Republic of China on National Economy and Social Development*, listing urbanization as an important content of national economic and social growth plans for the first time: to carry out urbanization strategy and to promote harmonious urban and rural development. According to the *Tenth-Five-Year Plan of the People’s Republic of China on National Economy and Social Development*, to improve urbanization level and to transfer rural population will help farmers to increase income and improve livelihood, will provide for economic growth more extensive markets and a longer lasting driving force, which make it an important measure promoting a positive cycle of national economy and a harmonious social development.

Along with the improvement of rural productivity and the acceleration of industrialization, the conditions for promoting urbanization progress have been mature; China should take the chance to carry out an urbanization strategy. The promotion of urbanization shall follow objective rules, be based on actual economic growth and market development degree and progress gradually by taking the diverse urbanization paths to achieve a harmonious development of large, medium-sized, and small cities and towns, so as to gradually construct a reasonable urban system. China will emphasize the development of towns, actively development medium-sized and small cities, improve the functions of regional central cities, bring into full play of the influence of large cities, and guide the orderly development of urban agglomerations. China should guard against the tendency of blindly expanding urban areas and urban size.

To develop towns is an important way to promote Chinese urbanization progress. The *Tenth-Five-Year Plan of the People’s Republic of China on National Economy and Social Development* also proposed to remove the institutional and

policy obstacles for Chinese urbanization, to break the dual urban and rural system, and to gradually build a new urban and rural relationship with the market-oriented economic system. China will reform the urban household registration system so as to achieve a system for an orderly mobility of both urban and rural population. China will remove the unreasonable restrictions preventing rural laborers from working in urban areas so as to guide an orderly migration of surplus rural laborers between urban and rural areas and among different regions. China will reform and improve urban land-use system and make adjustments to the land-use structure so as to make full use of land inventory and to have a better solution on urban construction land by developing financing channels and constructing a new investment and financing system for urban construction to finally realize a diverse pattern with multiple investing bodies. With the guidance of the government, China will exert the functions of market mechanism in constructing towns and encouraging both enterprises and urban and rural people to invest. China will set up standards for constructing cities and towns, and will construct the administrative management system in accordance with market-oriented economic systems and the requirements of urbanization. China will further promote the coordination of policies and improve the macro management on urbanization.

6.2.3. Promoting actively the healthy development of urbanization

According to the *Eleventh-Five-Year Plan of the People's Republic of China on National Economy and Social Development* adopted in March 2006, China will promote the healthy urbanization progress by balancing the development of large, medium-sized, and small cities and towns, improving the comprehensive bearing capacity of urban areas, and sticking to the principle of land conservancy, intensive development, and reasonable planning so as to actively and steadily promote the urbanization progress and to gradually change the dual urban and rural structure. China will take urban agglomeration as the main form of promoting urbanization to gradually achieve a harmonious and sustainable urbanization spatial structure with high efficiency with coastal areas and Beijing-Guangzhou and Beijing-Harbin railway lines as vertical axes, with the Yangtze River and Lianyungang-Lanzhou railway lines as horizontal axes, focusing on several leading urban agglomerations, with other scattered cities and towns and permanent farming land separating from ecological functioning areas.

The existing city agglomeration areas in Beijing-Tianjin-Hebei, the Yangtze River Delta Area, and the Pearl River Delta Area shall continuously exert their influence on surrounding areas, the division of urban functions, cooperating, and supplementation of advantages among different cities in urban agglomerations shall be further reinforced so as to promote the comprehensive competitiveness of these areas. The areas with conditions to develop urban agglomeration shall reinforce consolidation and planning, focusing on mega-cities and large cities, exerting the functions of central cities, so as to build new urban agglomerations using a small amount of land resources, creating more job positions, gathering main production elements and with a reasonable population distribution. As for the areas with scattered population distribution and unsatisfactory

resource conditions and without conditions to develop urban agglomeration, the focus shall be put on developing existing cities, towns, and organic towns with required conditions, so as to make them regional centers gathering economies, population and public services. China will speed up in removing institutional obstacles preventing urban and rural integration, construct and improve systems on taxation, land acquisition, administrative management and public services for the realization of a healthy urbanization. China will further improve administrative division and management models, reform on the employment management system segmentation urban and rural areas, deepen the reforms on the household registration system, and gradually construct a consolidated urban and rural population registration system.

6.3. The State Ministry of Housing and Construction

After People's Republic of China was founded in 1949, the state administration on urban construction was the Division of Basic Construction in Planning Bureau of Committee of Financial Affairs, Administration of Political Affairs. In August 1952, the central government founded the State Ministry of Construction Engineering in charge of construction projects and urban construction (Zhao, 1999). Later, the Ministry of Construction Engineering was changed into the Ministry of Urban Construction, the State Ministry of Construction, the State Ministry of Urban and Rural Construction and Environment Protection, and the State Ministry of Housing and Construction; these are administrations directly in charge of urbanization progress in China.

6.3.1. Law of City Planning and guidelines for urban development

The State Ministry of Construction organized the studies on urbanization path in China in the early 1980s and in October 1980, the State Capital Construction Commission held a work meeting on national city planning in Beijing, announcing clear guiding opinions on the status and function of city planning, the guidelines on urban development, as well as the compilation, approval, and implementation of city planning. The meeting also discussed the draft of the *Law of the People's Republic of China on City Planning*. The State Council promulgated on 5 January 1984 the revised edition of the draft for implementation as administrative regulation, during which several more revisions were made according to the actual requirements of the situation. On 26 December 1989, the NPC Standing Committee adopted the first law on city planning in China, *Law of People's Republic of China on City Planning*, clearly pointing out the principles of strictly controlling the size of large cities,¹¹ reasonably developing medium-sized cities¹² and small cities¹³ so as to achieve a reasonable pattern of productivity and population distribution.

¹¹Big cities refer to those with a non-agricultural population of more than 500,000 in urban and suburban areas.

¹²Middle cities refer to those with a non-agricultural population of more than 200,000 but no more than 500,000 in urban and suburban areas.

¹³Small cities refer to those with a non-agricultural population of no more than 200,000 in urban and suburban areas.

6.3.2. Seminar on Chinese urbanization path and on urban development strategies

In 1982, the City Planning Division of the Ministry of Urban and Rural Construction and Environmental Protection held four seminars on the issues of Chinese urbanization paths in different cities including Nanjing. In December 1982, the Chinese Society for Philosophy of Nature, Science and Technology held the first session of Seminar on Urban Development Strategy with the help of the Ministry of Urban and Rural Construction and Environmental Protection, extending the studies of Chinese urbanization to both fields of natural sciences and human sciences.

6.3.3. Regional urban system and planning of urban distribution

The reforms on the urban economic system starting in the 1980s managed to break the segmented and close urban economic management system formed during a long period of time in the past, to fully exert the functions of cities as centers, to greatly develop horizontal economic relations, and to gradually create economic areas centering on cities with different types of networks. Along with the introduction of the system of “promoting counties with cities”, the new urban and rural relations have been gradually established by promoting rural areas with urban areas, integrating urban and rural areas, and achieving a harmonious development. With this situation, the State Ministry of Construction launched city planning extensively in the entire country, encouraging the studies on urban development and pattern from regional perspective.¹⁴ In 1984, in order to meet the needs of compiling *Outline of State Territorial Plan* by State Planning Committee, the City Planning Bureau of the State Ministry of Construction started to organize the compilation of *Outline of Planning of Urban Distribution in China*. In October 1985, the *State Planning of Urban Distribution 2000* was compiled and included in the *Outline of State Territorial Plan* with the approval of the State Planning Committee. It was then distributed to all provinces for urban system planning and revising overall city planning. In early 1986, City Planning Bureau of the State Ministry of Construction organized the compilation of the *Planning of Urban Distribution along the Yangtze River*. In December 1990, the City Planning Division of the State Ministry of Construction and the Territorial Planning Division of State Planning Committee jointly compiled the *Planning of Urban Distribution along Lianyungang-Lanzhou and Lanzhou-Xinjiang Railway Lines*, and finished this plan in 1992 (Zhao, 1999).

6.3.4. Urban development strategies in China in the new Century

In 1994, the 14th National Congress of the Communist Party established the general framework of socialist market-oriented economic system. In order to promote the studies on

urbanization, urban development rules and mechanism with socialist market-oriented economic system, to guide a reasonable and orderly urbanization progress, the State Ministry of Construction listed the studies on urban development strategy in the new century as the key research topics during the 8th Five-Year-Plan Period.¹⁵ The project studies Chinese urban development strategies to embrace the information economy era, and also the urban development strategies in accordance with the reforms on socialist economic system. As the fundamental research for the compilation of new national urban system planning, the purpose of the research project is to study a series of theoretical and actual problems facing urbanization and urban development in China during the new Century, the main issues include: (1) To study the development trend of the world urban system, the tendency of economic globalization, and achievements obtained after China adopted reform and opening-up policies, and then the urban system in China under the background of the world urban system, exploring possible urban patterns formed under new international economic system and the new development trend of metropolises; (2) To analyze the experience and lessons on urban development in some developed countries, to explore the possible problems during the transition of economic system in China, including urbanization and suburbanization, and the types of cities (international metropolitan, urban agglomeration, and metropolitan areas), proposing appropriate new strategies of urban development in China; (3) To study the rules of urban system evolution in developed countries, to compare and analyze different social and economic conditions, to explore the internal mechanism and rules of Chinese urban system development under the economic globalization, information society, and new economic system, so as to provide new theoretical framework for the compilation of state middle-and long-term urban system planning and overall city planning.

6.3.5. Comparative analysis of Chinese urbanization and other countries

In 1997, the State Ministry of Construction organized the comparative analysis on Chinese urbanization and the other countries, exploring the necessity and urgency of Chinese urbanization on the basis of actual conditions in China and the international experience of urbanization, proposing suggestions on the policies of promoting Chinese urbanization.

6.3.6. Seminar on urbanization and urban development strategy in China

In February 1998, the State Ministry of Construction organized a Seminar on *Urbanization and Urban Development Strategy in China*, and the participants included the leaders and experts from State Planning Committee, the Research Office of the State Council, the State Ministry of Civil Affairs, the Ministry of Public Security, the Environment Protection Bureau, and other departments of the State Council as well as CAS, China Academy of Social Sciences, Beijing City Planning Bureau,

¹⁴Urban system planning was firstly introduced in Yantai City. During March to August 1984, City and Region Planning Division of Nanjing University joined hands with Yantai Munciple Planning and Designing Division in compiling *A Study on the Urban System Planning in Yantai (Confidential)*, Song Jiatai is the leader of the project team.

¹⁵The research project was undertaken by Geography Institute of Chinese Academy of Sciences and the research report was jointly compiled by Gu Chaolin, Cai Jianming, Sun Ying, Niu Yafei, Fan Guangbing, Zhang Qin, Zhu Junfeng, and Tian Wenzhu. The research results have been extensively adopted and applied in following studies on urbanization.

City Planning Institute, and Tsinghua University. The seminar was chaired by *Zhao Baojiang*, State Planning Committee Deputy Director *Guo Shuyan* participated in the seminar, and *Yu Zhengsheng* delivered keynote speech. All the participants agreed that urbanization is an inevitable trend of social and economic growth, and that a reasonable and orderly urbanization will actively promote the healthy and sustainable economic and social development in China, will help to solve the structural conflicts formed during the long period of time. Currently, China is experiencing rapid urbanization progress, and one of the key issues is how to actively prepare for the peak time of urbanization and to reasonably guide and control the urbanization progress in China. *Yu Zhengsheng* finally emphasized that urbanization is one of the top three issues that the State Ministry of Construction explored. Urbanization will have profound impact on the long-term development of China, which makes it an issue as important as the issues of water, agriculture, and land.

6.3.7. The compilation of National Urban System Planning

In May 2005, in order to carry out the order of the central government to reinforce and improve macro control, the State Ministry of Construction founded the planning compilation team and special project team with *Wang Guangtao* serving as the team leader, starting the compilation of *National Urban System Planning* according to the organization principles of “being organized by the government, emphasizing cooperation among different authorities and departments, leading with experts, being engaged by the public”.¹⁶ On the basis of studies on ten issues of urbanization and urban development including population, resource and environment conditions, and industrial and urban spatial development, the project team studied carefully the provincial urban system plans as well as overall planning of municipalities directly under the Central Government approved by the State Council, and the special planning on highway, railroad, and civil aviation, listened to the opinions of experts in different fields plus city planning administrations from 31 provinces (autonomous regions and municipalities) directly under the Central Government, sought written opinions of the joint conference of city planning administrations, and finally finished in September 2005 *Outline on National Urban System Planning (2006-2020)*. After October 2005, according to the requirement proposed by *Hu Jintao* during the 25th Political Bureau Learning Session held on 29 September 2005 on accelerating the compilation of national urban system planning, the State Ministry of Construction revised, enriched, and improved the content of *Outline on National Urban System*

¹⁶Since the adoption of Law on City Planning in 1990, the State Ministry of Construction initiated a series of basic research projects including “A Study on Urban Development Strategy in China at the Turn of the Century”, “A Comparative Analysis on Cities and Urbanization in China and Foreign Countries”. It also organized provinces (autonomous regions) to set up provincial urban system planning, and cooperated with Guangdong Provincial Party Committee and Provincial Government in compiling Harmonious Development Planning of City Agglomeration in the Pearl River Delta Area (2004-2020), laying a solid foundation of both theories and practice for the setup of National Urban System Planning.

Planning on the basis of the 11th Five-Year-Plan on National Economic and Social Development. National Urban System Planning was finally finished in August 2006.

6.4. The State Ministry of Civil Affairs

6.4.1. Forecast and Planning Designated Cities in China

In early 1989, the Administrative Division and Naming Division of the State Ministry of Civil Affairs started to compile *Forecast and Planning Designated Cities in China* and produced Scheme on Forecast and Planning Designated Cities based on extensive investigation and studies before launching pilot projects in *Shandong* Province.

6.4.2. Policies for Designated City Planning

According to the provincial planning and newly promulgated standards for constructing new cities, the State Ministry of Civil Affairs ordered the *Forecast and Planning Designated Cities* research team to decide on the framework and outline of the *Forecast and Planning Designated Cities* before collecting, filing, and analyzing relevant materials, tables, and graphics.¹⁷ The *Forecast and Planning Designated Cities* was finished in February 1995. On 19 May 1995, the State Ministry of Civil Affairs organized minister meeting to discuss the *Forecast and Planning Designated Cities* and confirmed on the research results. On 27 June 1995, the *Forecast and Planning Designated Cities* obtained the approval of the appraisal committee composed of leading domestic experts. On 2 July 1996, the State Ministry of Civil Affairs proposed the *Forecast and Planning Designated Cities* to the State Council, suggesting to make it an important foundation for setting up new cities in China and to make it a reference during the process of approval. The leaders of the State Council highly praised the *Forecast and Planning Designated Cities*, taking it as an important research fruit for compiling predicting and planning city setting up by the State Ministry of Civil Affairs with important significance for planning social and economic development, and therefore gave it consent to take it as the reference for setting up new cities in future.

6.5. The State Ministry of Science and Technology and National Foundations

6.5.1. Studies on urban development and urbanization technologies

The rapid Chinese urbanization also served as the engine for national economic growth. In December 2005, the State Council published *Planning Outline for Middle- and Long-Term Science and Technology Development (2006-2020)*, listing the research on urban development and urbanization technologies as the 11th topic. The project makes the construction of predicting and monitoring information system on Chinese urbanization as one of the goals of urban development and urbanization technological development in the next 15 years so as to provide technological foundation

¹⁷This research project is undertaken by the Geography Institute of Chinese Academy of Sciences, and the research report is jointly compiled by *Hu Xuwei*, *Pu Shanxin*, *Ma Qingyu*, *Gu Chaolin*, *Cai Jianming*, and *Tian Wenzhu*.

for the harmonious process of population re-distribution, economic and social growth, and urbanization progress. It is required to construct an urbanization predicting and monitoring platform with new technologies including GIS, to construct urban and rural space identification and monitoring system in typical areas, to study the rules and model of urbanization with distinct Chinese characteristics on the basis of the continuous and rapid urbanization progress in China, to study the development strategy and policies on both megalopolis and towns, as well as the urban and rural integration system, policies, and management during Chinese urbanization.

6.5.2. Key projects sponsored by the National Foundation on Philosophy and Social Sciences

The committee of National Foundation on Philosophy and Social Sciences sponsored the key research project of “*Investigation on Urban Population Movement in 74 Chinese Cities*” during the 7th Five-Year-Plan Period. Population Institute CASS cooperated with 16 provinces and municipalities directly under the Central Government in launching the investigation. The researchers summarize the main features of the urban population moving during Chinese urbanization progress: (1) the urban population movement fluctuated during Chinese urbanization process; (2) rural population move in a large amount to urban areas; (3) mechanism of the urban population movement is subject to proportioned plans and administrative management; (4) the restriction on urban and rural population movement originated from the closed economic elements.

6.5.3. Key projects sponsored by National Natural Science Foundation

The Department of Geosciences of National Natural Science Foundation of China started from the actual needs of the country and the disciplinary development and actively promoted the studies on Chinese urbanization, so that the research on urbanization and urban system continuously progresses. According to the statistics released during 21 years since 1987, a total of 17 researches on urbanization were sponsored by the National Natural Science Foundation (Table 1). Since 1990, Zhou Yixing has been in charge of 5 research projects (including two key projects). In 2004, Gu Chaolin was in charge of the key research project of “*Pattern, Process and Mechanism of Urbanization in China (40435013)*”, which concluded that the theories on urbanization in the Third World in the west are based on the dependency theory framework, whose frameworks are not in conformity with the actual situation in China and with research on Chinese urbanization, while the theories on urbanization under the socialist planned economy is outdated and no longer practical. The focus of the research includes: (1) the theoretical framework on Chinese urbanization; (2) the spatial pattern, development process, and dynamic mechanism of regional urban system; (3) the impact of globalization on Chinese urbanization progress.

The goals of the research are: (1) to construct an ideal theoretical framework for the studies on Chinese urbanization, to explore the expression with mathematical model system (possibly system dynamic model), to progress in theories on urbanization and quantitative analysis, especially the urbanization progress and mechanism; (2) to predict on the ideal status of Chinese urbanization during 2010-2050 on the basis of

restrictive function cluster; (3) to apply geographical information system to make video expression on the above-mentioned ideal status from four levels of country, greater region, urban agglomeration, and mega-city. These research projects greatly promoted the studies on urbanization and urban system theories in China and have obtained many important academic results both domestically and internationally.

6.6. International cooperation and important conferences on Chinese urbanization

6.6.1. Four academic seminars on Chinese urbanization paths

- (1) The first seminar on urbanization path in China was held in 1980 in Hangzhou during the meeting announcing the founding *Division of Regional Planning and Urban Economics of China City Planning Committee of China Architecture Association*, the issue of Chinese urbanization paths was listed as the first discussion topic during the session, discussing how to organize and promote the studies on urbanization issues in China (Hu, 2007).
- (2) The second seminar on Chinese urbanization paths was held during 6-10 December 1982 in Nanjing. The participants include more than 60 experts, and professionals from the Ministry of Urban and Rural Construction and Environmental Protection, the policy maker of the Secretariat of the CPC Central Committee, institutes, universities and colleges, as well as government and administrations in 18 provinces and municipalities, handing in a total of nearly 70 articles (including five research books). The participants exchanged academic ideas on urbanization, clarified some basic concepts, had a better understanding on some issues of Chinese urbanization, and basically decided on the direction of future studies on Chinese urbanization.¹⁸ As for the concept and standard of urbanization, most participants agreed that there were two different translation versions of “*Chengzhenhua* “城镇化” and “*Chengshihua* (城市化)” on the same term “urbanization”, that urban and rural are antonyms and urban areas refer to both cities and towns.

Urbanization is a process of population transferring from rural areas to urban residential areas of different types. Urban areas refer extensively to cities and towns, and in most cases, cities also include towns and there are a large amount of towns, making the Chinese translation version of “*Chengzhenhua* “城镇化” more accurate than “*Chengshihua* (城市化)”. During the seminar, most participants believed that urbanization refers to the process of rural population changing into urban population, and agricultural population changing into non-agricultural population. But, urbanization is a result of social, political, economic, cultural, and technological

¹⁸Synopsis of minutes is compiled on the basis of the speeches delivered by Professor Song Jiatai, leader of Regional Planning and Urban Economic Research Team, Zhou Ganzhi, leader of the Institute of City Planning and Designing, and Hu Xuwei from Geography Institute of Chinese Academy of Sciences, as well as on the speeches made by other participants and relevant theses.

Table 1 Research projects on urbanization sponsored by the Department of Geosciences, National Natural Science Foundation of China (1987-2007).

Project No.	Researcher	Working unit	Project name	Fund (10,000 yuan)
48770020	Wang Qiming	Nanjing Normal University	Studies on Rural Human Settlements Types in South Jiangsu Province and on Rural Urbanization	1.2
48770022	Hu Zhaoliang	Peking University	A Comparative Study on Urbanization and Urban Development Rules	1.5
49171030	Wang Qiming	Nanjing Normal University	A Comparative Study on Rural Urbanization in Yangtze River Delta Area and Pearl River Delta Area	4.5
40171042	Hu Dan	CAS Research Center for Eco-Environmental Sciences	On the Spatial Heterogeneity of the Urbanization in Taihu Drainage Area on Taking up Natural Capital	5
40271032	Li Wenjun	Peking University	Urbanization in Ecological Tourism Areas and Natural Reserve Areas	29
40271043	Gu Chaolin	Nanjing University	Studies on Urbanization Process and Mechanism in Ecologically Vulnerable West Areas	10
40371038	Xu Jiangang	Nanjing University	Studies on Urbanization Measurement and Time and Spatial Evolution Based on Data Mining	10
40371040	Yuan Jiadong	Northeast Normal University	Studies on the Features of Geographical System Development during Material Urbanization in Large Cities of Northeast China	28
40471055	Liu Weidong	Zhejiang University	Evaluation on Multi-Functional Protection Value of Farming Land in Areas with Rapid Urbanization Progress and Calculation of Efficiency	29
40571056	Liu Shenghe	CAS Institute of Geographical Sciences and Natural Resources Research	Spatial Evolution Types and Dynamic Mechanism of Semi-Urbanization Areas in China	35
40571060	Tian Guangjin	Beijing Normal University	Time and Spatial Models, Driving Mechanism, and Environment Response of Urbanization in China	30
40671047	Yang Qingshan	Northeast Normal University	Studies on Mutual Feedback Mechanism of Social Changes and Urbanization Evolution in both Time and Space in Northeast China since 1860	33
40671062	Dong Suocheng	CAS Institute of Geographical Sciences and Natural Resources Research	Studies on the Effect of Ecological Environment on the Urbanization of Oasis Areas along Shiyang River and Corresponding Control Measures: A Case Study of Liangzhou District, Wuwei City	27
40101010	Liu Shenghe	CAS Institute of Geographical Sciences and Natural Resources Research	Changes of Land Use and Spatial Reorganization in Areas with Semi-Urbanization: A Case Study of Shaoxing City in Zhejiang Province	21
40401016	Yang Xiaoguang	CAS Institute of Geographical Sciences and Natural Resources Research	Studies on Location Changes of Rural Industrial Enterprises in China and on its Relationship with Urbanization	25
40261002	Su Weici	Guizhou Academy of Sciences	Studies on the Process, Model, and Environment Effect of Rural Urbanization in Karst Areas in Guizhou	15
40561003	Li Baisui	Inner Mongolia Normal University	Studies on Industrial Structure Evolution in Agricultural-Husbandry Areas and Its Interaction with Urbanization	22
49331010	Hu Xuwei	CAS Institute of Geographical Sciences and Natural Resources Research	Studies on Mechanism and Control of Economy and Population Centralization and Decentralization in Coastal City Agglomeration Areas	74

Table 1 (continued)

Project No.	Researcher	Working unit	Project name	Fund (10,000 yuan)
49831030	Xu Xueqiang	Sun Yat-sen University	Studies on the Harmonious Development of Hong Kong, Macau, the Pearl River Delta Area and Surrounding Areas	110
90102013	Dong Suocheng	CAS Institute of Geographical Sciences and Natural Resources Research	Interaction between Urbanization and Environment in Northwest China during Last 50 Years	80
40335051	Zhou Yixing	Peking University	Spatial Dynamics on the Evolution and Self-Organizing of Chinese Cities	90
40435013	Gu Chaolin	Nanjing University	Studies on Model, Process, and Mechanism of Urbanization in China	130
40535026	Zhang Lei	CAS Institute of Geographical Sciences and Natural Resources Research	Studies on Resources and Environment during Urbanization Progress in China	135

Note: the statistics were released by Department of Geosciences of the National Natural Science Foundation of China on the research projects with the term “urbanization” in topics or as key word.

processes, and an extremely complicated dynamic process as well. It is therefore inadequate to measure Chinese urbanization process and level by the changes and growth of urban population proportion. Most participants held that the issue can be analyzed with multiple indices on a comprehensive basis. In the past, as for the statistics on urban population in China, it means the non-agricultural population in the cities and towns, making the final results relatively low and unreasonable. During the 1982 census, urban population included all people in cities and towns, which made the data more practical and closer to the actual situation than before. But since some industrial and mining areas and towns are scattered in location, many towns are constructed on the basis of counties, and the suburban areas of mountainous urban areas are relatively big with a small proportion of non-agricultural population, and the entire population is calculated as urban population. In addition, there are a large amount of farmer workers in urban areas, who are actually urban population registered as rural population, whether they should be included into urban population.

The trend of urbanization progress is another important issue. The construction of socialist modernization in all aspects will greatly promote the urbanization progress in China. Firstly, agricultural development has laid a solid material foundation for Chinese urbanization and requires more rapid urbanization progress. Secondly, along with the great development of energy industries, a large amount of coal production bases, oil fields, large-, medium-, and small-scale waterpower and thermal power stations, which means in the one hand, the original industrial and mining cities will further development, on the other hand, a lot of new industrial and mining cities and towns will be constructed. Thirdly, the priority on traffic and transport industry is fundamental to urban development. The construction of railway, port

and other transport facilities will also greatly promote the Chinese urbanization progress. Fourthly, during the process of constructing four modernizations, China will greatly promote intellectual development so as to develop culture, education, research, and the tertiary industry, for these are also important factors promoting Chinese urbanization.

At the same time, urbanization is an objective historical process occurring at the same time as economic growth. The urbanization level in a country is in logarithm correlation with its economic development level. In 2000, the gross output value of industry and agriculture in China doubled, making China a moderately prosperous country in the world and the proportion of urban population is no less than 30%. To sum up, Chinese urbanization is an inevitable trend of, and objective requirement by, the realization of four modernizations, and most participants believed that the opinion “urbanization is not the path for urban and rural development in China” was not correct.

The Chinese urbanization paths are another important issue. China is a developing socialist country and must stick to a socialist urbanization path with distinct Chinese characteristics. While at the same time, the natural conditions in different places differ greatly, with different population and nationality composition and imbalanced economic growth, therefore, different places shall choose different urbanization paths with distinct local characteristics. *The National Urban Construction Working Meeting* held in 1980 summarized the good and bad experiences on urban construction since 1949, proposing the principles of “controlling the size of the large cities, reasonably developing medium-sized cities, and actively developing small cities.” Most participants believed that the principles of urban development are in accordance with the actual conditions in China. Since the overall level of productivity

development is relatively low and differs greatly in different places, for a relatively long period of time, many economic forms will exist side by side.

As for agricultural population changing into non-agricultural population, the leading way of realizing that is to keep them where they are by depending on the collective system and various types of cooperation so as to actively develop small cities and towns, especially a large amount of rural markets. But some participants proposed that the terms such as “control” and “reasonable development” were ambiguous in meaning. The session finally concluded that the Chinese urbanization is a big issue facing the entire world and to study Chinese urbanization has great theoretical and practical significance. In general, China is lack in both experience and studies in the urbanization field; while at the same time, urbanization is an extremely issue and it's impossible to solve all the problems and to clarify all the issues by holding one or two academic seminars. China should unite together and join hands in studying these issues so as to make the research on urbanization fruitful.

- (3) The third seminar on Chinese urbanization paths was held in October 1984 and jointly organized by China City Planning Academic Committee and China Association of Urban Sciences in Yueyang City, focusing on the issues of small city and town development. The Division of Regional Planning and Urban Economics also explored the direction of studies on Chinese urbanization and key issues in the field through internal exchanges and communications (Hu, 2007).
- (4) The fourth seminar on Chinese urbanization paths was held in November 1986 in Shijiazhuang and organized by Division of Regional Planning and Urban Economics, China City Planning Association, focusing on urban system planning (Hu, 2007).

6.6.2. Second session of International seminar on Asian Urbanization

The Second session of International seminar on Asian Urbanization was held in August 1988 in Nanjing, the participants include the experts on urbanization from US, UK, and leading countries in Asia. Chinese scholars introduced the results and progress of studies on urbanization during the last decade.

6.6.3. Studies on population, employment and urbanization

During 1989-1992, the Research and Development Center of the State Council cooperated with the Development Division of World Bank to launch the research project on population employment and Chinese urbanization, covering such issues as the problems of development and innovation of large cities in China during the process of industrialization, and the problems of regional urbanization during the process of industrialization in China.

6.6.4. Comparative Study on Urbanization from Bottom to Top

During 1994-1996, Nanjing University, Sun Yat-sen University in China joined hands with US University of Akron, The

University of Georgia, and University of Washington in launching the Sino-US research project, *A Comparative Study on Urbanization in China from Bottom to Top* sponsored by Henry Luce Foundation and the Chinese urbanization research team.

6.6.5. World Bank Senior Seminar on Chinese Urbanization

On 23 July 1999, World Bank held in Beijing a Senior seminar on Chinese Urbanization. The participants include such Chinese governmental officials as Deputy Minister Zhao Baojing from the State Ministry of Construction, Deputy Minister Lou Jiwei from the Ministry of Finance, Deputy Director Shao Bingren from System Reform Office of the State Council, and Chief Zhu Baozhi from Planning Division of National Development and Planning Committee. The theme of the seminar was the impact of urbanization on economic growth in China as well as corresponding measures. Most participants believed that urbanization is an inevitable trend of economic and social development in China, that to actively adopt urbanization policies, to speed up urbanization progress, to increase the investment on urban infrastructure construction, these will promote domestic demand and economic growth in a short term, and will also serve as an effective way to make adjustment to middle- and long-term basic economic structure, which will have great impact on the sustainable, rapid and healthy economic and social growth in China. Nobel economics award winner and senior vice president and chief economist of the World Bank J. E. Stiglitz listed the Chinese urbanization as one of the two key elements affecting the human development progress during the 21st Century beside high technology in US. According to *The Economic Evaluation on Urban Development in China* published by World Bank, in the next two decades and in terms of the continuous development of China, urban development will become one of the most important policy issues. It also pointed out that China should promote the growth of economic efficiency and growth as well as economic equality through urbanization.

In his speech, Lou Jiwei held that, in order to realize a rapid and healthy urbanization progress, China must set up effective policies promoting urbanization development on the basis of re-evaluating existing policies. He also emphasized that the current policies and regulations restricting urban land use prevented the healthy development of urbanization, that the researchers should study the feasibility of developing financing channels for urban construction by issuing urban construction bonds by local governments. Zhu Baozhi proposed in his speech to take urbanization progress as a main content of the 10th Five-Year-Plan, to compile national urban system planning, and to make adjustment to overall national land use plans according to the actual demand of urbanization process.

Zhao Baojiang emphasized in his speech that the policies on Chinese urbanization must be based on the actual situation in China and must meet the requirements of constructing socialist market-oriented economic system. In order to ensure an orderly development of urbanization, it is necessary to compile scientifically and to implement strictly city planning, and China shall further increase the

investment on urban infrastructure and social facilities, shall deepen the reforms on public enterprise and government-owned enterprise, and shall build a regular investment and financing system for urban construction on the basis of market-oriented economic operation system.

6.6.6. World Bank Research Project: Policies of Chinese urbanization¹⁹

The World Bank started to study the Chinese urbanization on a systematic basis in 1999, with the initial purpose of providing investment support as well as technological and intellectual help for the overall development in China. Accordingly, in order to be in accordance with the demand on urbanization during the 10th Five-Year-Plan period, from 1999-2003, the World Bank launched a complete study on the policies of Chinese urbanization with the help of leading scholars from twelve universities including Stanford University, Brown University, University of Washington, University of Wisconsin, London School of Economics, Université Paris 12, University of Tokyo, China Academy of Sciences, China Academy of Social Sciences, and Peking University. On the basis of international experience and through case studies on *Zhejiang*, *Henan*, and *Sichuan* Province, they intended to provide advice on urbanization progress in China in extensive fields of household registration system, land, infrastructure, investment and financing system, and urban development strategy.

With the deepening of the research and in order to meet the needs of *Great West Development Project* and *Reviving Northeast China Project*, the World Bank organized a more extensive study during 2002-2005 on lagging regions and small town development as well as the investment environment of Northeast China, the case studies covered extensive areas of *Sichuan*, *Chongqing*, *Yunnan*, *Guizhou*, *Gansu*, *Henan*, *Zhejiang*, and provinces in Northeast China. Later on, on the request of *National Development and Reform Commission* and *State Ministry of Finance*, and in order to meet the requirements of development during the 11th Five-Year-Plan Period, during 2003-2007, the World Bank organized researches on special issues of urban development strategies in several regions and cities and metropolitan governance, covering such cities as *Chongqing*, *Chengdu*, *Guiyang*, *Zhengzhou*, *Xinxiang*, *Erdos*, *Tianjin*, *Hangzhou*, *Changsha*, *Zhuzhou*, *Xiangtan*, *Harbin*, *Dalian*, and *Qiqiha'er*. Recently, in order to further deepen the development strategies proposed for the 11th Five-Year-Plan Period and to prepare for the improvement of urbanization quality during the 12th Five-Year-Plan Period, from 2006, the World Bank focused on *Tianjin* and *Zhengzhou* to study the urban land use efficiency in China as well as focused on *Ningbo* to study the construction of new countryside.

6.6.7. International Seminar on Chinese Urbanization Strategies

The National Development and Reform Commission, the State Ministry of Finance, and the World Bank jointly held an International seminar on Chinese Urbanization Strategies

during 7-9 May 2000 in Beijing. In order to solve the problem of rapid industrialization and slow urbanization in China, as well as the management problems in both policies and systems caused by the long-term neglecting of the studies on urbanization, the seminar focused on the issues such as how to cope with the important policies made for the 10th Five-Year-Plan Period and how to manage urbanization progress. Most participants agreed that the lagging Chinese urbanization was not in accordance with its economic growth, and the main reason is that the government controls migration and provides extremely limited urban services to floating population and their families. One of the indicators of a lagging urbanization is the continuous widening of the income gap between urban and rural population. They analyzed the factors preventing urbanization progress in China, believing that the obstacles preventing mobility of population and company must be removed. The participants held that the existing household registration system greatly restricted the population movement and therefore affected the flow of main elements, which in fact resulted in the scattering of labor markets.

The seminar concluded that one of the top challenges facing China is how to satisfy the demand for a large amount of investment in urban infrastructure and services for next decade. Most participants suggested that, apart from current urban maintenance and construction tax, the government shall develop and apply more taxes and charges, including use fees, property tax, property rent, and local government loan, transfer payment among governments, and infrastructure and urban service market fees. Furthermore, the seminar paid special attention to the areas with semi-urbanization, especially the areas surrounding large cities, which have been the most active places in industrialization and urbanization during last two decades. The participants reviewed the past experience of taking urban size as the foundation for making urban policies, that is, the policies of strictly controlling the growth of large cities, reasonably development medium-sized cities, and actively developing small cities and towns. The seminar argued that the policy was no longer practical and proposed a new policy of "reasonably develop large cities, actively developing medium-sized and small cities, greatly promoting the development of carefully chosen towns".

6.6.8. Studies on Semi-Urbanization in China

In 2004, the Chinese Academy of Sciences, Department of Urban and Rural Development of the Institute of Geographical Sciences and Natural Resources Research, CAS and Asia and Pacific Research Center of Stanford University jointly applied for the sponsorship from Ford Foundation on their Studies on *Semi-Urbanization in China*. The World Bank also sponsored the research project. The purpose of the project is to have a better understanding on semi-urbanization in China through international comparative analysis and case studies, especially the dynamic process and mechanism of employment, environment, and social service since the 1990s, analyzing the significance and impact of semi-urbanization on the overall Chinese urbanization and the evolution of urban spatial structure, proposing corresponding suggestions on policy making.

¹⁹Cai Jianming, On Development and Dynamics of the World Bank in Studies of Urbanization in China, 3 March 2008.

6.6.9. International Conference on Chinese Urbanization and Transport Development

During 2-5 August 2007, the China Planning Network (CPN), Massachusetts Institute of Technology (MIT), China Association for Science and Technology (CAST), and *Xinhua News Agency Outlook Weekly* jointly organized in Beijing *International Conference on Chinese Urbanization and Transport Development*. Participants include the representatives from international organizations such as the World Bank, Asian Development Bank, Commission of European Union, Alliance for Global Sustainability, Harvard US-China Economic Interaction Forum, Rockefeller Foundation, the Energy Foundation, as well as more than 100 experts, scholars and officials from MIT, Harvard University, University of Pennsylvania, Imperial College London, London University, London Olympic Committee, Transport Committee for Metro-London, Volpe Center, Chicago Public Transport Operation Bureau, Citibank, Hong Kong Planning Department, Singapore Land Transport Authority, Tsinghua University, Tongji University, Beijing Jiaotong University, China Academy of City Planning and Design, Chinese Urban Studies Society, Beijing Transport Committee, Beijing Subway, Guangzhou Transport Committee, Society of Automotive Engineers of China, and China Council for the Promotion of International Trade. The seminar discussed the policies for the development of urban transport, the urban transport and a harmonious society, the investment and financing for construction and operation, the green transport and sustainable development, the land use and the integration transport, the development of urban public transport, urban transport planning, urban information technologies and intellectual transport system, the policies and practice on managing traffic jam, the construction and management of large scale transport projects, and cross-disciplinary transport education.

7. Conclusion and discussion

7.1. Features of studies on Chinese urbanization

In general, the studies on Chinese urbanization have obtained achievements in following: (1) Theoretical studies on Chinese urbanization by domestic and foreign scholars are fruitful. Firstly, they concluded on the mutual promotion of economic transition and urbanization. As early as the 1980s, scholars found the impact of agricultural reforms and opening-up policies on the economic and urban transition in the Pearl River Delta Area. Secondly, scholars found a new form of urbanization, that is, from bottom to top and de-agriculturalization or simply rural urbanization (Ma and Lin, 1993). The Asian model of urbanization is the concept of *desakota* proposed by McGee (1991), which was deemed appropriate to describe the urbanization progress in the Pearl River Delta Area (Lin, 1997). Thirdly, some scholars held that a dual urbanization occurred during the period of reform and opening-up, that is the government-guided urbanization (the growth of non-agricultural population) and the spontaneous urbanization, i.e., the rural urbanization based on rural enterprises and the moving of floating population (Shen et al., 2002, 2006; Shen, 2006a). During 1980-2000, the growth of urban population was caused by

the dual urbanization, including the growth of non-agricultural population in cities, the growth of floating population, while the rural urbanization was driven by the development of rural enterprises. As a result, China remains to be a dualistic society without a complete urban and rural integration. (2) The studies on China urbanization made by domestic scholars have distinct practical purposes. In comparison with foreign scholars, Chinese researchers are more practical in their studies focusing on theories, guidelines, and paths of Chinese urbanization (Feng, 1983; Zhou, 1984; Deng, 2000; Zhong, 2000), and their conclusions serve as the foundation for the state to make policies on urban development. For example, the central government proposed in 1978 the principles of “controlling the development of large cities and promoting the development of small cities and towns”, the State Council approved and distributed in 1980 *the Minutes of National City Planning Working Meeting*, proposing the principles of “controlling the size of large cities, reasonably developing medium-sized cities, actively developing small cities”, the state promulgated the *Law on City Planning* in 1990, clearly regulating in Article 4 that “the state will carry out the principles of strictly controlling the size of large cities and reasonably developing medium-sized and small cities, promoting the construction of a reasonable distribution structure of both productivity and population”; all these are closely related to the researches on Chinese urbanization. (3) Interaction between domestic and foreign scholars and the application of international experience in China. After the Second World War, the rapid urbanization developed in developing countries, while classical western theories on urbanization couldn't explain all the phenomena in China (Yan, Lin and Xu, 1994). China is a developing country in the world and a socialist country as well; its urbanization has distinct Chinese characteristics accordingly. There are many approaches including the classical and the traditional approach, the top-to-bottom development approach, the historical approach, the dependency theories, the bottom-to-top development model, and post-modernist approach (Gu, 2003), all managed to make reasonable explanations on the urbanization in developing countries, while the researches on Chinese urbanization provide important foundation for the verification of these theories. At the same time, the Chinese urbanization also raised new questions for the studies of urbanization in the world. For example, the features of urbanization in the Pearl River Delta Area are quite different from those of the *desakota* model in Asia (Sit and Yang, 1997a, b, c), therefore, its dynamics, mechanism and spatial features shall be further explored.

7.2. Problems facing Chinese urbanization

The continuous and rapid economic growth as well as extensive and a large amount of population movement in China make the issue of urbanization increasingly important. To sum up, the main problems in the field include: (1) The studies on the basic concepts concerning Chinese urbanization. The rapid urbanization in China make the classical concept ambiguous and the term needs to be redefined based on the actual situations, including the definition of such concepts of city and countryside,

designated city and designated town, the adjustment made to administrative division, the division of urban areas, and the concepts of urban population and urban land. (2) The studies on Chinese urbanization model. The rapid growth of population has become the leading factor restricting Chinese urbanization, especially the amount of surplus agricultural products, the capacity and resources as well as job vacancies available for the expansion of production, making it an urgent task to understand the basic rules of rural surplus labor transfer, of floating population and of population moving; another important issue is to study how to develop an urbanization model with resource-conserving, environment-friendly, ecologically civilized in China on the basis of limited resource and environment conditions. (3) The studies on the rules of Chinese urbanization, including its dynamic mechanism, the relationship between urbanization and industrial development, and the development stage of Chinese urbanization. (4) The studies on the space of Chinese urbanization. The rapid development of urban economic areas changed the focus of studies from original size and structure of urban system to the spatial and functional structure of the urban system, as well as urban agglomeration, city group, and metropolitan areas. While at the same time, the expansion of urban agglomeration intensified the negative impact of urbanization on society, creating many problems of the disorder of urban spatial structure, the over-populated and the high density of buildings in downtown areas, the traffic jam, the lack of housing, the pollution of environment, and the deterioration of ecological environment, making the studies on urbanization increasingly important. Furthermore, the uneven growth of urbanization space results in the increasingly polarization among different regions in China, and this is another important issue to be studied. (5) The studies on public policies on urbanization in China: the Chinese urbanization also faces a series of institutional obstacles, including the household registration and management system, the social security system, the employment system, and the land transfer system, etc.

7.3. Existing problems of studies on Chinese urbanization

The studies on Chinese urbanization have the following problems: (1) The concept of urbanization is ambiguous and the basic statistics is inadequate. The inconsistency on the concept of cities and relevant statistics resulted in the difference in understanding urbanization and in the application of materials. As for the actual application of data, the broad and narrow connotations of urbanization are used interchangeably, resulting in the mistakes and low credibility of statistics, materials, and conclusion. (2) Scholars emphasized the studies on phenomena instead of the fundamental theories. Chinese scholars focused on the application of foreign theories on urbanization and practices in Chinese urbanization, and on the practice of developed areas and areas growing rapidly, instead of exploring theories and methodologies. The studies on Chinese urbanization created several theoretical assumptions, falling into several categories of anti-urbanism or de-urbanism, industry/strategy-oriented urbanization, dual system of urban

center and rural-urban balance development, industrialization and urban-based approach, as well as comprehensive approach, but these studies have no effective mathematical model to simulate and verify these theories. (3) Most studies focus on regional urbanization instead of on national and global background. The studies on Chinese urbanization are case studies at provincial level, on natural geographical regions, or economic geographical regions, especially the process, features, and dynamic mechanism of urbanization in developed areas including the Pearl River Delta Area and the Yangtze River Delta Area after the reform and opening-up. Most research articles focus on provincial urbanization in coastal areas in East China and on regional or national economy, culture, society, natural geographical environment instead of on the impact of globalization on Chinese urbanization.

7.4. Prospect of research on Chinese urbanization

According to western classical studies on urbanization, three factors affect urbanization: (1) urban distribution and development is decided by population base; (2) the grading redistribution of surplus social products decides the hierarchy of the urban system; (3) trade, merchantism and capitalism decide the development of a city (Potter and Lloyd-Evans, 1998). During the Industrial Revolution of the 18th to 19th Century, western developed countries interweaved industrialization, economic growth and rapid urbanization; later on, the colonial spatial expansion kept promoting urbanization in underdeveloped areas. In the 1950s, population, capital, and technologies in western developed countries moved rapidly to large cities and their surrounding areas, while the tendency of suburbanization appeared on population, industries, and service sector in large cities, with the appearance of many new cities in the urban fringes of large cities.

It is noted that the urbanization process in western developed countries has always been in accordance with the urban and rural population transition and economic structure changes, in a gradually changing and smooth "Davis Urbanization Curve" (Davis, 1965). Accordingly, western scholars constructed western urbanization theories on the framework of social surplus product theories.

After the Second World War, with high natural growth of population, rapid urbanization, lagging industrialization, urban poverty and population explosion, the urbanization process in developing countries is obviously different from that in western developed countries (Bairoch, 1975). For a long period of time, the theories on urbanization in the Third World have been controlled by Europe-centered theories and are dependent urbanization theories constructed on the basis of dependency theories (Frank, 1967; Castells, 1977; Gilbert and Gugler, 1982). To sum up, there are six main theoretical frameworks of the studies on western urbanization (Gu, 2003): (1) classical-traditional approach: dual structure theory (Prebisch, 1950; Perroux, 1950; Myrdal, 1957); (2) top-to-bottom development model: imbalanced development theories (Richardson, 1977, 1980), modernization theories (Hettne, 1994; Soja, 1974; Gould, 1970; Riddell, 1970), decentralization theories (Hudson, 1969; Berry, 1973a, b); (3) historical approach: accumulation

theory (Myrdal, 1957), core-peripheral model (Friedmann, 1966); (4) radical political economics approach: dependency theory (Frank, 1967), surplus social values accumulation theory (Harvey, 1973; Castells, 1977), world system theory (Wallerstein, 1974, 1980; Taylor, 1986); (5) bottom-to-top model: development starting from the bottom (Stohr, 1981); (6) post-modernist approach (Urry, 1990; Harvey, 1989; Robins, 1989; Massey, 1991; Kaarsholm, 1995).

After three decades of development since the adoption of reform and opening-up policies, China has undergone great changes in social, economic, cultural, and market conditions. At the same time, the regional gap in urbanization also increases on a continuous basis. Since China is in the transitional stage from planned economy to market-oriented economy, it is hard to directly introduce the theories on urbanization developed within the conditions in the developed capitalist countries to China. Also, the theories on urban development created under the condition of the socialist planned economy can no longer be applied either, resulting in a series of scientific problems during the process of promoting urbanization. The background for urbanization progress in modern China is much more complicated than that in western countries and most developing countries. On the one hand, the continuous and rapid economic growth and industrialization plays an increasingly important role in promoting urbanization; on the other hand, millions of surplus rural laborers move between urban and rural areas and among different regions, serving as a leading factor promoting urbanization. At the same time, globalization and informatization play an increasingly important role on the urbanization in coastal developed areas (Gu, 2004). In this sense, the urbanization theories created by western scholars for developed or developing countries are not applicable to the actual conditions in China nor to the studies on urbanization (Gu, 2003). It is necessary to set up a theoretical framework for the studies of Chinese urbanization with distinct Chinese characteristics.

Since the 1980s, globalization has progressed extremely rapidly. With the free flow of main production elements in the world, the gradual formation of new international division of labor, the establishment of a global market system, the global industrial restructuring and shift, and the formation of new global industrial distribution, the space of urbanization has changed greatly. At the same time, globalization promotes the competition for capital in different regions; it becomes therefore a common requirement of a favorable business environment featuring loose control, privatization, preferential taxation policies, subsidies, and the loosening of control on the environment (Lauria, 1997). The process of economic globalization has a profound and extensive impact on the urbanization progress in the world (Castells, 1989, 1994). According to research, the rapid growth of leading cities in the world is closely related to two global processes (Chase-Dunn, 1984, 1989), the one is the economic globalization (Daniels, 1991), and the other is the rapid growth of the service sector (Batten, 1995). The trend of urbanization in the world shows that the large cities, especially the world cities (global cities) grow rapidly (Sassen, 1991, 1994).

Along with globalization since the 1980s, the distribution of the world industries has changed greatly, with the industrial centers moving from the old industrial countries,

US, West Europe, and Japan, to Asia and Pacific Region, Latin America, and other countries and regions with rapid industrialization. The world economic growth is accompanied by the development of large cities, and globalization is remolding the global urban system, greatly promoting the growth of cities engaging in the process of globalization, while those further away from the process generally decline (UN-Habitat, 1997). China becomes the leading manufacturing base in the world and the target country for foreign direct investment in response to economic globalization and the world urbanization wave; the rising of local economies, the strengthening of local governmental control, the resistance and changes of local social structure, these make the Chinese urbanization different from that in developed countries, newly rising industrialized countries, and from the previous one in China, which posed new challenges on both western classical urbanization theories and the assumptions on urbanization in traditional developing countries. In terms of the new trend of urbanization in the world, the relevant studies in China based on the framework of globalization are few and have just begun.

The studies on urbanization under the background of globalization focus on the following issues. (1) The globalization of cities, that is, the global cities, they serve as the "command and control" centers in the world and the headquarters for a many financial companies, production service industries, and multi-national companies, as well as the platform for interaction activities in extensive fields of politics, art, and culture. Each and every city connects with the world clients and markets, suppliers and competitors, consumers and producers through the gigantic network of investment, trade, migrants, and electronic communications. As the labor-intensive link in the world commodity chain, the global cities reflect the trend of high technologies and high value-added functions gathering in global centers while the low value-added functions gather in marginalized areas in the world. The governments of the global cities are forced to contribute a large amount of public resources to create a construction environment for global investment and to produce a series of key policy projects, making cities the group customers of economic agglomeration and of the world market as well as the platform for political community (Douglass, 2000). The globalized urbanization has two features: the globalization of urban areas and the fragmentation of urban society and political bodies. (2) The new spatial order. The urbanization under globalization is creating a new spatial order, just like post-Fordist cities serving as the source of cultural and technological innovation, the modularization of innovative places and industrial structure and the tendency of network structural and geographical agglomeration (Marcotullio, 2003). In an era of globalization, the connection among different cities become closer, and a multi-polar and multi-level global city network is taking shape.

The school of dependency theories and the school of the world system believe that globalization and foreign capital have negative impact on the urbanization in developing countries. The early researchers (Harvey, 1975) held that foreign capital resulted in the dependent urbanization in developing countries. Armstrong and McGee (1985), Friedmann (1986), Fuchs and Pernia (1987) argued that the urban system, urbanization, and the spatial structure in

developing countries became increasingly dependent on the role they played during the process of capitalist accumulation in industrial countries, making it difficult for these countries to get away from dependent urbanization under the new global order. The world system approach believed that foreign investment would reduce the land resources available for farmers, forcing population move to cities, that investment in urban areas created industries attracting rural migrants, and that the recent world economic development might profoundly change the opinions on the urbanization and development of the Third World. Many recent studies show that the world debt crisis and the pressure from the IMF encouraged overurbanization, restrained economic growth and material life quality, increased political protest and domestic turmoil (Bradshaw and Noonan, 1997). Globalization benefits the recipients through the transfer of technologies and information on trade and investment, and also reduces the urbanization in countries developing rapidly through overlapping management and environment issues, creating new challenges as well. Furthermore, polarization occurred in these fields due to the adjustments made to the state and local policies (Cook, 2000; Marcotullio, 2003).

Today, world urbanization enters a special stage with radical changes of political and economic background. During such a special period of time, urbanization picked up new features of information cities, multi-centered metropolitan areas, and the splitting of urban space, making it increasingly hard for regular urbanization models, the classical sector model and concentric zone theories, to explain the city landscape in development countries and the overurbanization process in developing countries. Recently, Knox and McCarthy proposed that urbanization not only refers to the increase of population living and working in cities and towns, it also refers to the changes in economy, population, politics, culture, technology, environment, and society caused by a series of closely related changing processes. Urbanization is affected by geographical conditions and natural resources and results in changes in the land use model, social ecology (the social and neighboring population structure), architectural environment, and urbanism. Governmental policies, the revision of laws, city planning, and urban management might finally solve the problems occurring during the urbanization progress, and different factors affect the dynamic social balance and will finally promote the overall progress of urbanization (Knox and McCarthy, 2005). Urbanization progresses rapidly in China with the growth of mega-cities, mega-city regions and mega-regions, requiring the researchers to study from multidimensional perspectives the progress in economic system, internal factors, external factors, social system and social spatial structure, land use and urban spatial structure, as well as social problem with fast urbanization processes.

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